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DELAWARE STATE MEDICAL JOURNAL

Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 31 NOVEMBER, 1959 NUMBER 11

DIABETES

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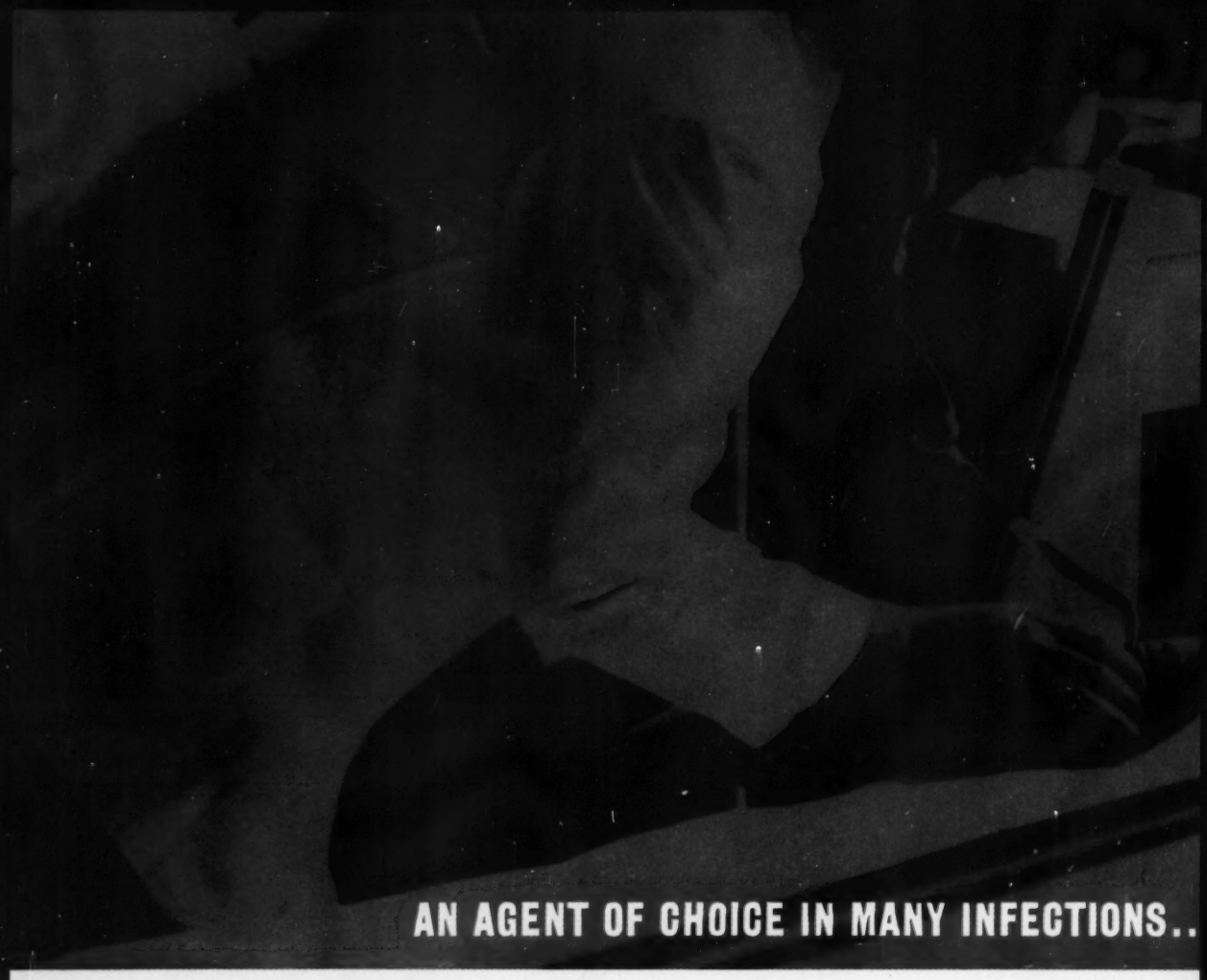

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"In selecting the antibiotic of choice for treating urinary pathogens, *in vitro* testing is essential."[1] Numerous studies[2-9] attest the wide antibacterial activity of CHLOROMYCETIN—"...often effective against organisms which are resistant to the other broad-spectrum antibiotics."[3] For example: "...it often provides a means of controlling infections due to such resistant organisms as *Proteus*."[3] "*B. proteus* exhibits a greater sensitivity to chloramphenicol than to other antibiotics," according to one investigator.[4] Another reported: "*Proteus* bacilli are often drug resistant, but significant activity against them is exhibited by chloramphenicol...."[5] In the latter study, CHLOROMYCETIN "...showed the greatest activity among the agents tested against *E. coli*, *A. aerogenes*, and *Proteus* species."[5]

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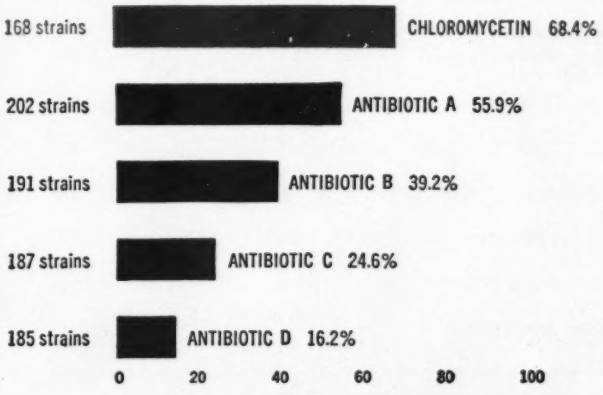
REFERENCES: (1) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* 29:159, 1957. (2) Suter, L. S., & Ulrich, E. W.: *Antibiotics & Chemother.* 9:38, 1959. (3) Murphy, J. J., & Rattner, W. H.: *J.A.M.A.* 166:616, 1958. (4) Rhoads, P. S.: *Postgrad. Med.* 21:563, 1957. (5) Horton, B. F., & Knight, V.: *J. Tennessee M. A.* 48:367, 1955. (6) Seneca, H.: *Am. Pract. & Digest Treat.* 10:622, 1959. (7) Hall, W. H.: *M. Clin. North America* 43:191, 1959. (8) Seneca, H., *et al.*: *J. Urol.* 81:324, 1959. (9) Wolfsohn, A. W.: *Connecticut Med.* 22:769, 1958.

IN VITRO SENSITIVITY OF PROTEUS SPECIES TO CHLOROMYCETIN AND TO FOUR OTHER ANTIBIOTICS*



*Adapted from Suter & Ulrich.[2]
These antibiotics were tested by the tube dilution method, using a concentration of 12.5 mcg/ml. The percentages represent the total number of sensitive strains found in five *Proteus* species.

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References: 1. Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958. 4. Bonica, J. J.: in Drugs of Choice, Mosby, St. Louis, 1958, p. 272. 5. Dascomb, H. E.: in Current Therapy, Saunders, Phila., 1958, p.78. 6. Bickerman, H. A.: in Drugs of Choice, Mosby, St. Louis, 1958, p.547.

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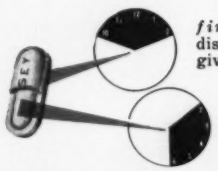

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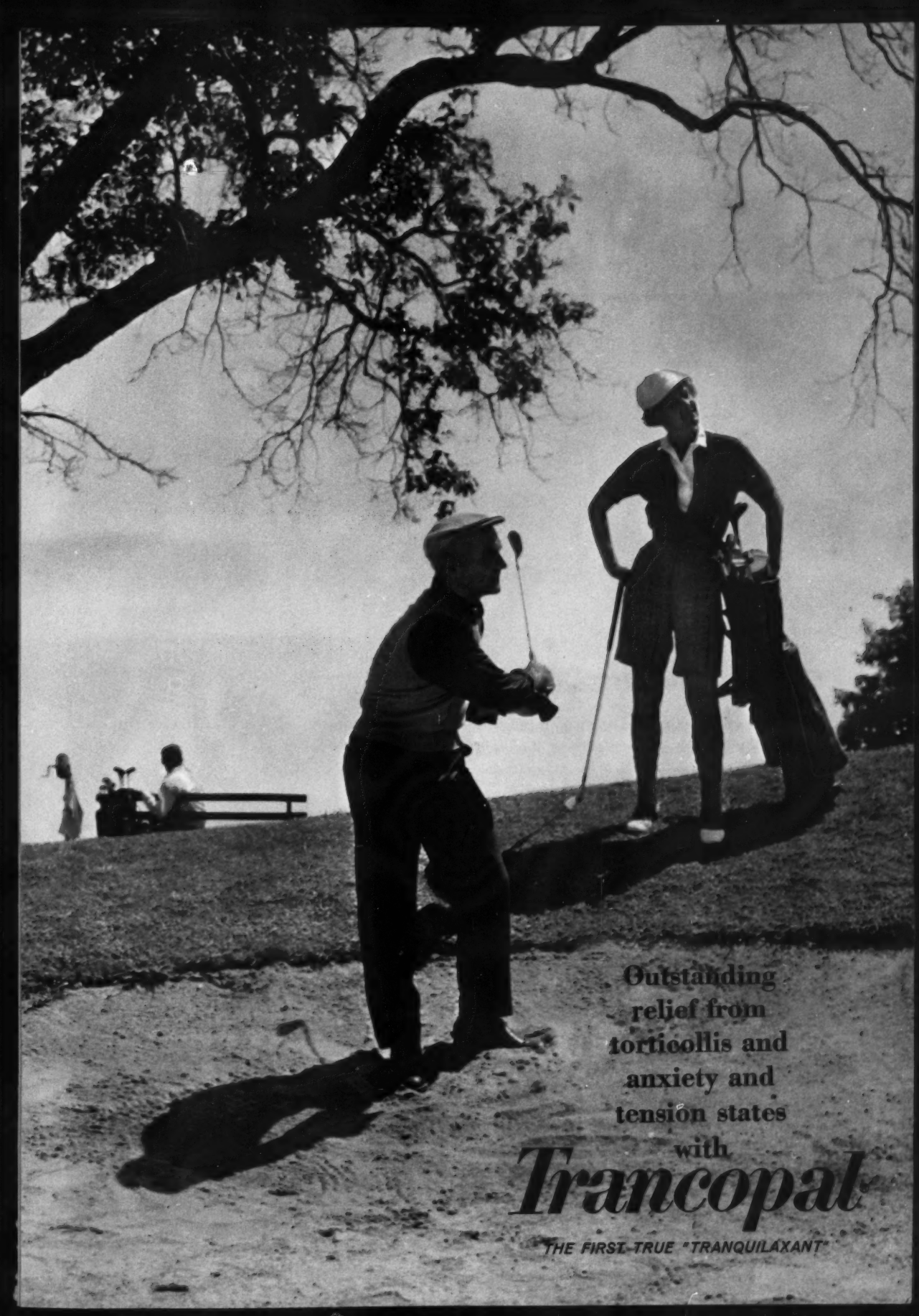
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torticollis and
anxiety and
tension states
with
Trancopal
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Here is what you can expect when you prescribe

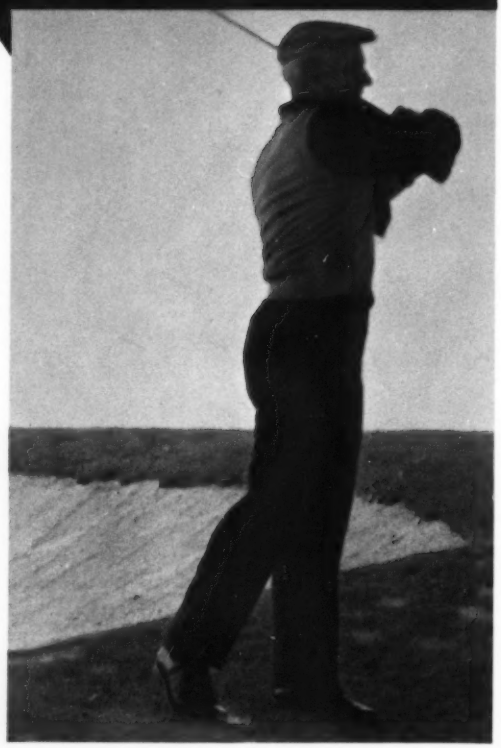
case profile no. 2840*

A 55-year-old man complained of a painful, very stiff neck on the left side. There was marked muscle spasm that seemed to involve primarily the trapezius muscle. He had a severe headache, with the pain radiating down the left side of the neck to the shoulder. There were no other findings on physical examination and results of routine laboratory tests were normal.

Trancopal was prescribed in a dosage of 200 mg. q.i.d. The first and second dose of Trancopal gave only moderate relief. However, after the third dose, there was marked relief of the stiffness of the neck, as well as the headache and shoulder pain.

After the fourth dose, medication was gradually decreased and was discontinued on the sixth day. One week later, the patient had moderate recurrence of the torticollis, and Trancopal was again prescribed in doses of 200 mg. q.i.d. The patient obtained complete relief in one day and no further treatment was required.

for torticollis



THE FIRST TRUE "TRANQUILAXANT"

Trancopal®

for anxiety and tension states

case profile no. 3382*

A 35-year-old woman, a professional model, had an acute, severe attack of anxiety. She was irrational and unable to eat, and was very restless.

Initial medication consisted of aspirin with codeine and later meprobamate. Neither was effective, and the patient's condition became worse. She had to be hospitalized because of the marked anxiety. Trancopal was then prescribed in a dosage of 200 mg. q.i.d., in addition to bed rest.

After the second dose of 200 mg. of Trancopal, the patient became calm and rational, and was able to eat. The dosage of Trancopal was gradually reduced to 100 mg. q.i.d. on the fourth hospital day, after which the patient was discharged and was able to return to her normal occupation.

**Clinical Reports on file at the Department of Medical Research, Winthrop Laboratories.*

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***effective* TRANQUILIZER**

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Low back pain (lumbago, etc.)	Dysmenorrhea
Bursitis	Premenstrual tension
Rheumatoid arthritis	Asthma
Osteoarthritis	Angina pectoris
Disc syndrome	Alcoholism
Fibrositis	
Ankle sprain, tennis elbow, etc.	
Myositis	
Postoperative muscle spasm	

Dosage: Adults, 100 or 200 mg. orally three or four times daily. Relief of symptoms occurs in fifteen to thirty minutes and lasts from four to six hours. The higher dosage is recommended for the treatment of patients in the acute stages of painful musculospastic conditions, and anxiety and tension states. Children (5 to 12 yrs.), 50 mg. three or four times daily.

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1. Collective Study, Department of Medical Research, Winthrop Laboratories.
2. Lichtman, A. L. (N.Y. Polyclinic M. Sch. & Hosp.): Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958.
3. Mullin, W. G., and Epifano, Leonard (Long Island College Hosp.): Am. Pract. & Digest Treat. To be published.
4. Ganz, S. E. (New York, N. Y.): J. Indiana M. A. 52:1134, July, 1959.

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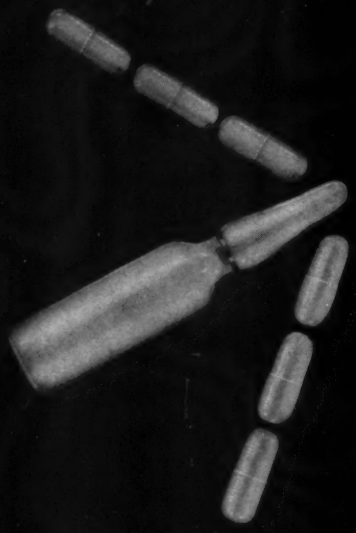

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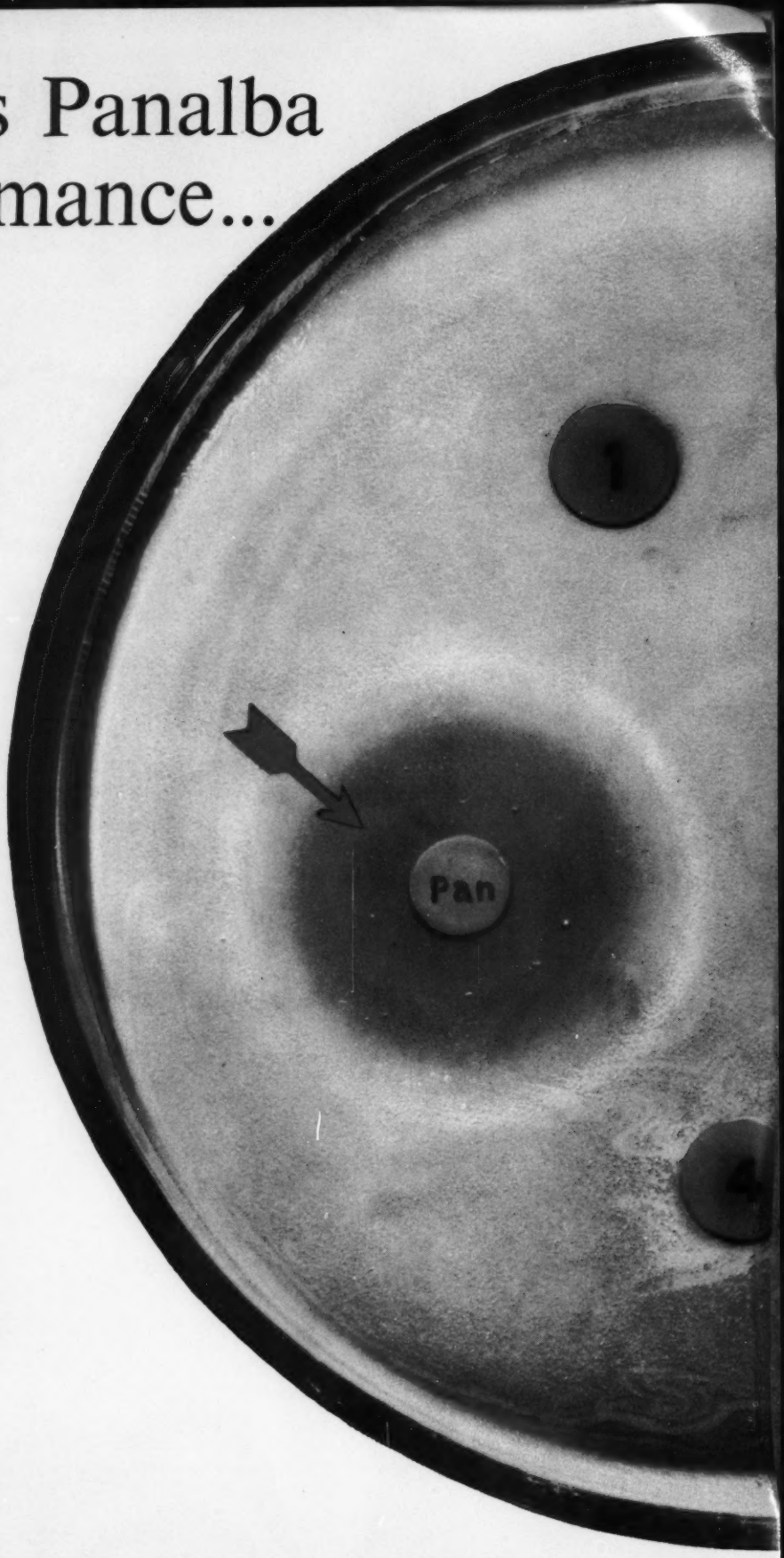

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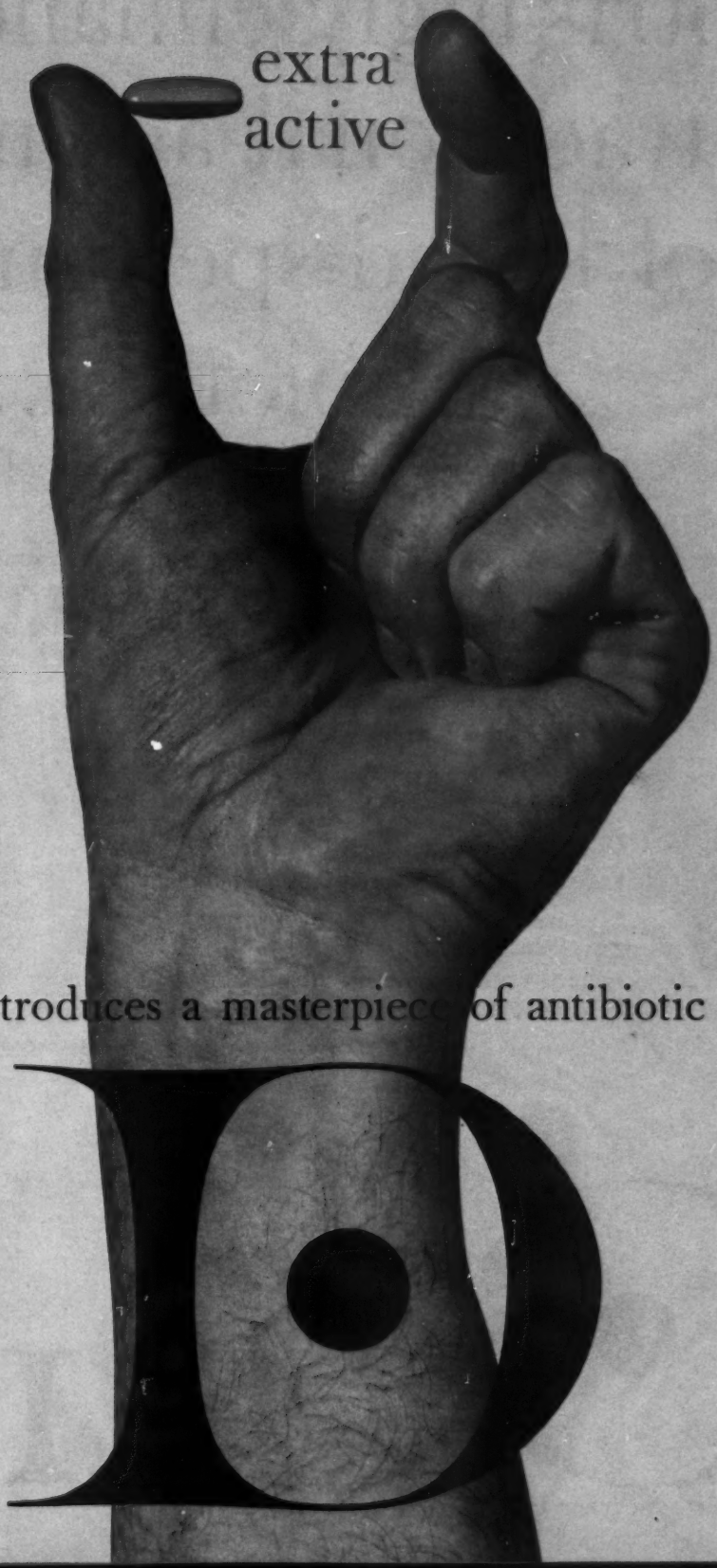

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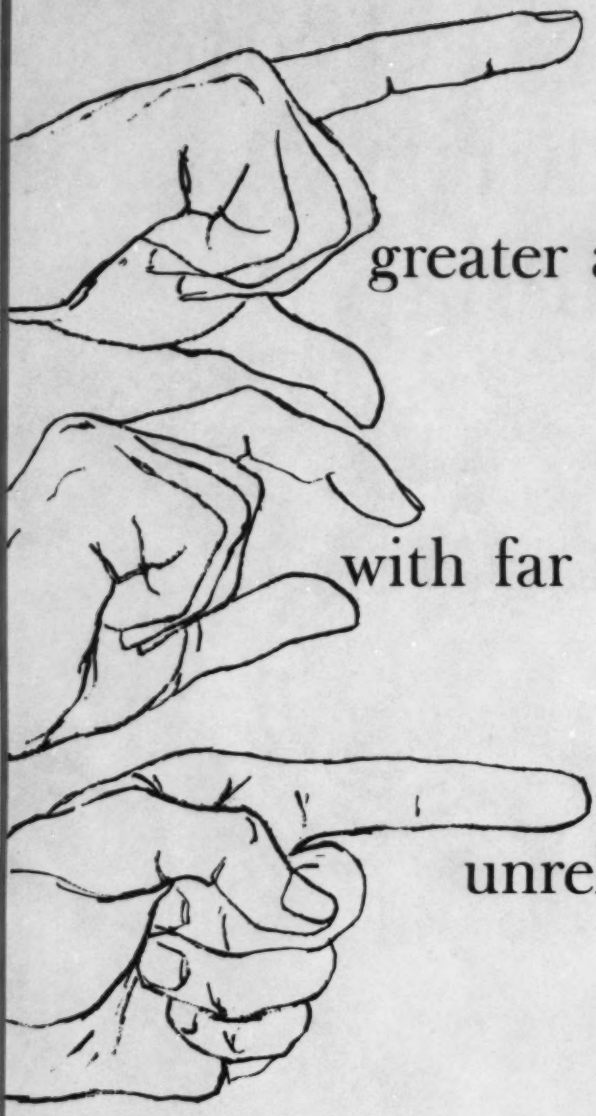

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with far less antibiotic intake

unrelenting peak attack

—enhancing the unsurpassed features of tetracycline... for greater physician-patient benefits

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antibiotic design

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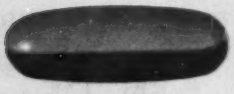

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1. Hirsch, H. A., and Finland, M.: Antibacterial Activity Of Serum Of Normal Subjects After Oral Doses of Demethylchlortetracycline, Chlortetracycline and Oxytetracycline. *New England J. Med.* 260:1099 (May 28) 1959. 2. Hirsch, H. A., Kunin, C. M., and Finland, M.: Demethylchlortetracycline – A New And More Stable Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Activity. To be published. 3. Lichter, E. A., and Sobel, S.: The Distribution Of Oral Demethylchlortetracycline In Healthy Volunteers And In Patients Under Treatment For Various Infections. To be published. 4. Kunin, C. M., Dornbush, A. C. and Finland, M.: Distribution And Excretion Of Four Tetracycline Analogues In Normal Young Men. To be published. 5. Kunin, C. M., and Finland, M.: Demethylchlortetracycline: New Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Capacity. *New England J. Med.* 259:999 (Nov. 28) 1958. 6. Sweeney, W. M.; Hardy, S. M.; Dornbush, A. C., and Ruegsegger, J. M.: Demethylchlortetracycline: A Clinical Comparison of A New Antibiotic with Chlortetracycline and Tetracycline. *Antibiotics & Chemotherapy* 9:13 (Jan.) 1959.

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Ascorbic acid .....50.0 mg.

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For steroid or non-steroid therapy: SAFE DEPENDABLE ECONOMICAL

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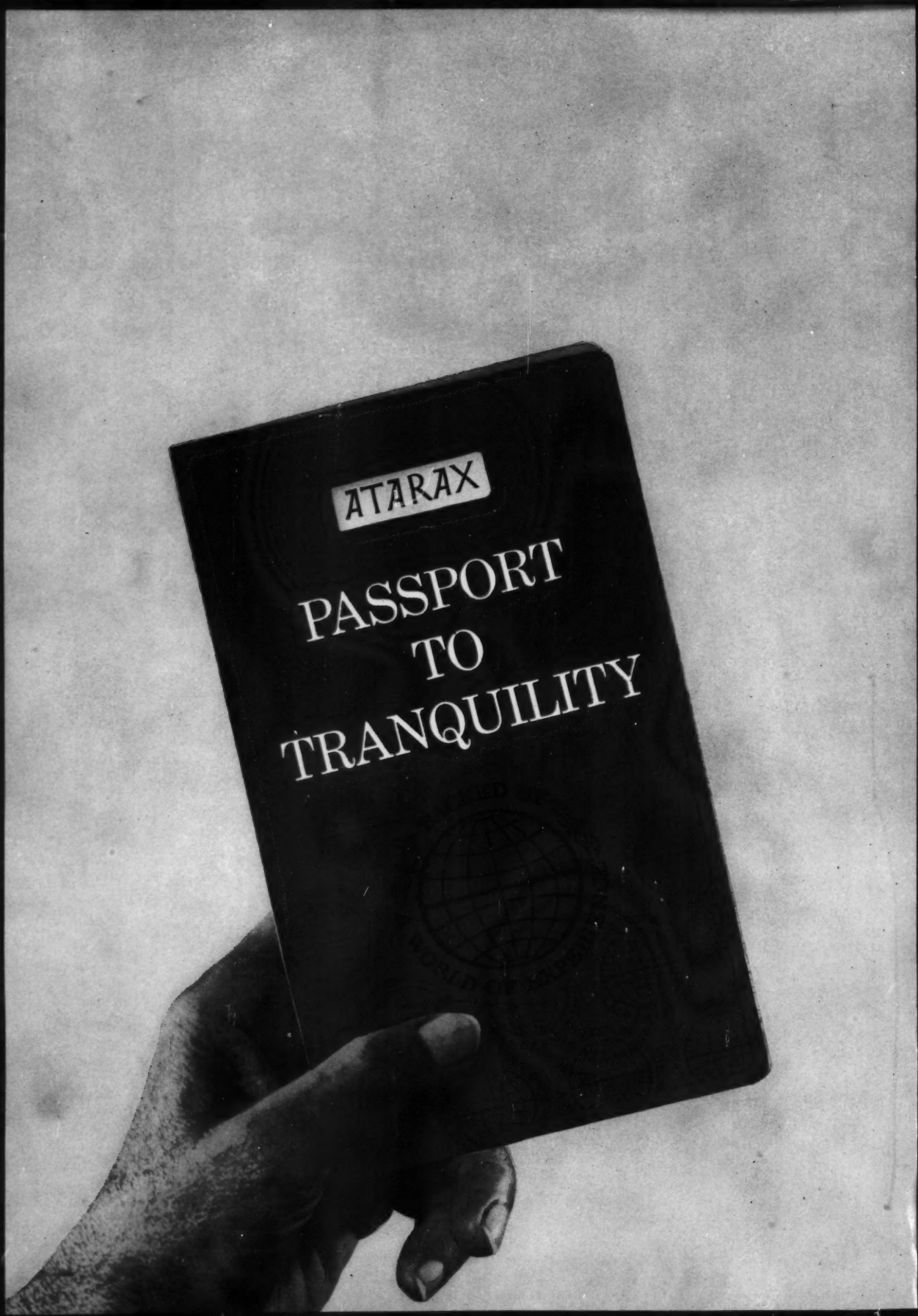
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In anxiety, tension and agitation, ATARAX "... produced a more favorable state of calm and tranquility than any drug previously used."[1]

☞ **widest latitude of safety and flexibility**

No serious adverse reaction ever documented – five dosage forms and sizes

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Dosage: ADULTS, one 25 mg. tablet, or one tbsp. Syrup q.i.d. CHILDREN – 3-6 years, one 10 mg. tablet or one tsp. Syrup t.i.d.; over 6 years, two 10 mg. tablets or two tsp. Syrup t.i.d.

Supplied: Tiny 10 mg., 25 mg., and 100 mg. tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

References: 1. Farah, L.: Internat. Rec. Med. *169*:379 (June) 1956. 2. Smigel, J. O., et al.: J. Am. Geriatrics Soc. *7*:61 (Jan.) 1959. 3. Feinberg, A. R., et al.: J. Allergy *29*:358 (July) 1958. 4. Eisenberg, B. C.: J.A.M.A. *169*:14 (Jan. 3) 1959. 5. Marysaael, L.: Bruxelles-méd. *38*:141 (Jan. 26) 1958. 6. Pfleger, R.: Med. Klin. *53*:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

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Potassium Penicillin V

® FILMTAB — FILM-SEALED TABLETS, ABBOTT, U.S. PAT. NO. 2881085

Supplied: Compocillin-VK Filmtabs, 125 mg. (200,000 units), bottles of 50 and 100; 250 mg. (400,000 units), bottles of 25 and 100. Compocillin-VK Granules for Oral Solution come in 40-cc. and 80-cc. bottles. When reconstituted, each 5-cc. teaspoonful represents 125 mg. (200,000 units) of potassium penicillin V.

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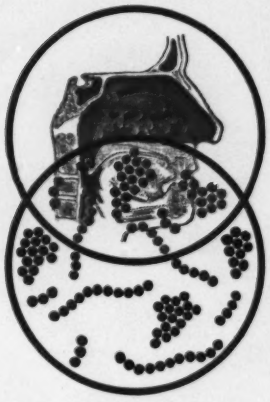
in tiny, easy-to-swallow Filmtabs® in tasty, cherry-flavored Oral Solution



when upper respiratory congestion is complicated by bacterial invaders

TRISULFAMINIC provides logical therapy

- for the patient ill with congestion and infection of the upper respiratory tract, as in purulent rhinitis, sinusitis, tonsillitis and otitis media, when caused by sulfa-susceptible bacteria;
- because secondary invasion by such bacteria so frequently follows the common cold.[1]

the reasons for combining Triaminic with triple sulfas

Triaminic and triple sulfas are not only pharmacologically *compatible*, they are a therapeutically *logical* combination for upper respiratory infections: Triaminic for effective decongestant relief from rhinitis, rhinorrhea and sinusitis;[2] triple sulfas for well-established antibacterial action.

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Available as TABLETS and SUSPENSION

Each easy-to-swallow Trisulfaminic Tablet or 5 ml. teaspoonful of Suspension provides:

Triaminic® .....25 mg.
(phenylpropanolamine HCl 12.5 mg.
pheniramine maleate ..... 6.25 mg.
pyrilamine maleate ..... 6.25 mg.)
Trisulfapyrimidines, U.S.P. .....0.5 Gm.

Dosage:

Adults—2 to 4 tablets or tsp. initially, followed by 2 tablets or tsp. every 4 to 6 hours until the patient has been afebrile 3 days. *Children 8 to 12* — 2 tablets or tsp. initially, followed by 1 tablet or tsp. every 6 hours. *Children under 8* — dosage according to weight.

The palatability, convenience and effectiveness of the Suspension make it especially suitable for children and for those older patients who prefer liquid medication.

References: 1. Cecil, R. L., et al.: J.A.M.A. 124:8 (Jan. 1) 1944. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Beckman, H.: Drugs, Their Nature, Action & Use, Saunders, Philadelphia, 1958, p. 527.

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The extended usefulness of TENTONE is readily apparent

TENTONE® Methoxypromazine Maleate is a new, distinctive phenothiazine... highly active ...for general use in mild and moderate emotional and psychosomatic disorders.

TENTONE elicits a striking, positive calming response[1,2]...with marked reduction of psychic disorientation, and low risk of blood, liver or other organic toxicity and intolerance.[1-4]

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1. Bodi, T., and Levy, H.: Clinical report, cited with permission. 2. Wetzler, R. A., and Phillips, R. M.: Clinical report, cited with permission. 3. Prigot, A.: Clinical report, cited with permission. 4. Gosline, E., *et al.*: *Am. J. Psychiat.* 115:939 (April) 1959. 5. Turvey, S. E. C.: Clinical report, cited with permission.

Tentone

Methoxypromazine Maleate

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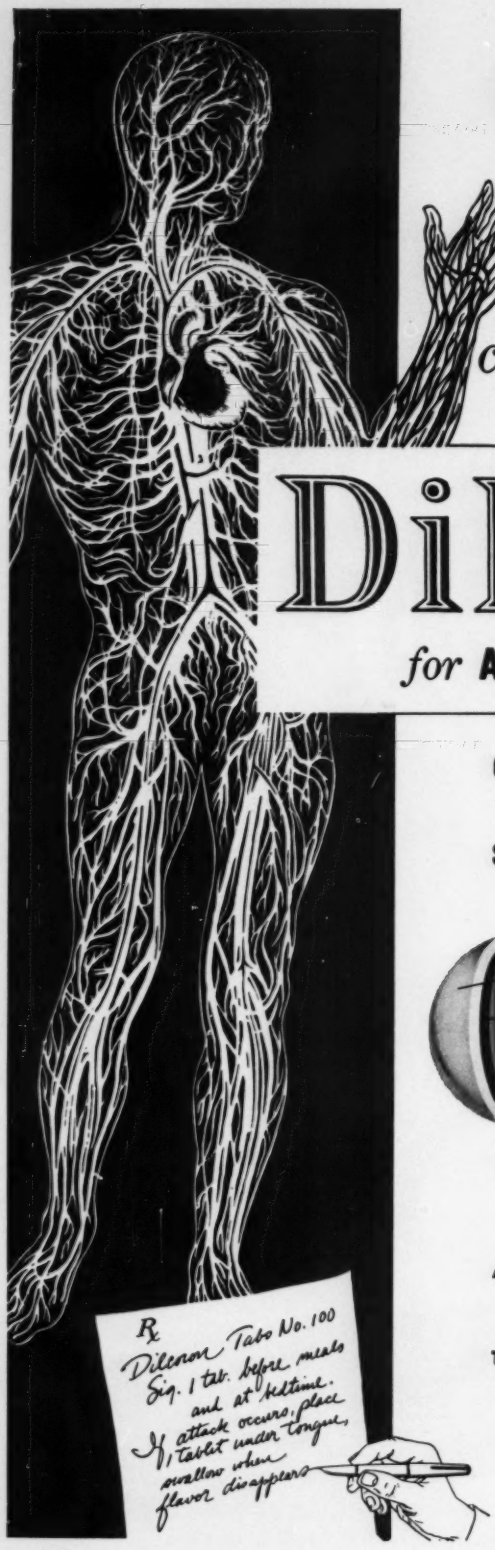

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"flavor-timed" dual-action coronary vasodilator

Dilcoron®

for ANGINA PECTORIS

ORAL *(tablet swallowed whole)*
for dependable prophylaxis

SUBLINGUAL-ORAL
for immediate and sustained relief

Nitroglycerin
—0.4 mg. (1/150 grain)—acts quickly

Citrus "flavor-timer"
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Pentaerythritol tetranitrate
—15 mg. (1/4 grain)—prolongs action

For continuing prophylaxis patient swallows the entire Dilcoron tablet on an empty stomach.

Bottles of 100.

Average prophylactic dose:
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Therapeutic dose:
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for the tense and nervous patient

relief comes fast and comfortably

–does not produce autonomic side reactions
–does not impair mental efficiency, motor control, or normal behavior.

Usual Dosage: One or two 400 mg. tablets t.i.d.

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets or as MEPROTABS*–400 mg. *unmarked,* coated tablets.

Miltown®

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CM-9470

NOW

. . . a new way to relieve pain and stiffness in muscles and joints

indicated in:

- MUSCLE STIFFNESS
- LUMBOSACRAL STRAIN
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- BURSITIS
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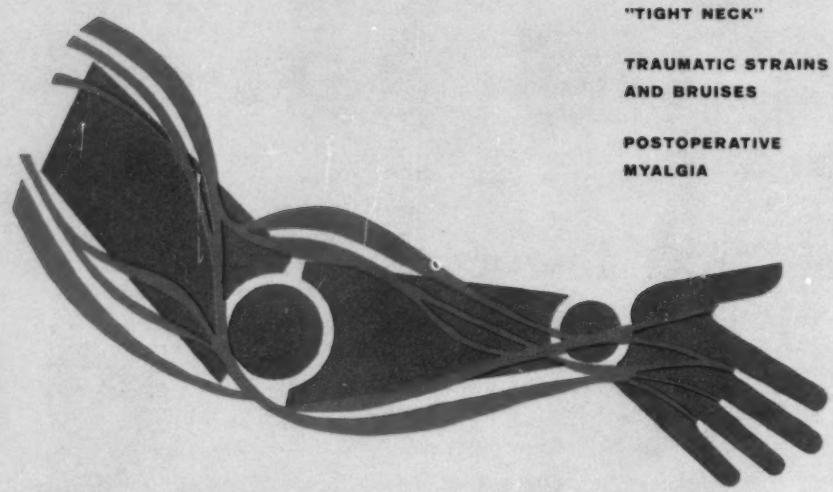

■ Exhibits unusual analgesic properties, different from those of any other drug ■ Specific and superior in relief of SOMAtic pain ■ Modifies central perception of pain without abolishing natural defense reflexes ■ Relaxes abnormal tension of skeletal muscle

SOMA™

N-isopropyl-2-methyl-2-propyl-1, 3-propanediol dicarbamate

■ More specific than salicylates ■ Less drastic than steroids

■ More effective than muscle relaxants

SOMA has an unique analgesic action. It apparently modifies central pain perception without abolishing peripheral pain reflexes. SOMA is particularly effective in relieving joint pain. Patients say that they feel better and sleep better with SOMA than with previously used analgesic, sedative or relaxant drugs.
SOMA also relaxes muscle hypertonia, with its stresses on related joints, ligaments and skeletal structures.

ACTS FAST. Pain-relieving and relaxant effects start in 30 minutes and last 6 hours.

NOTABLY SAFE. Toxicity of SOMA is extremely low. No effects on liver, endocrine system, blood pressure, blood picture or urine have been reported. Some patients may become sleepy, particularly on high dosage.

EASY TO USE. Usual adult dose is one 350 mg. tablet 3 times daily and at bedtime.

SUPPLIED: Bottles of 50 white coated 350 mg. tablets.

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THE *complete* Rx FOR COUGH CONTROL

cough sedative / antihistamine / expectorant

- relieves cough and associated symptoms in 15-20 minutes
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- promotes expectoration
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- agreeably cherry-flavored

Each teaspoonful (5 cc.) of HYCOMINE contains:

Hycodan®		
Dihydrocodeinone Bitartrate (Warning: May be habit-forming)	5 mg.	6.5 mg.
Homatropine Methylbromide	1.5 mg.	
Pyrilamine Maleate		12.5 mg.
Ammonium Chloride		60 mg.
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Supplied: As a pleasant-to-take syrup. May be habit-forming. Federal law permits oral prescription.

Endo®

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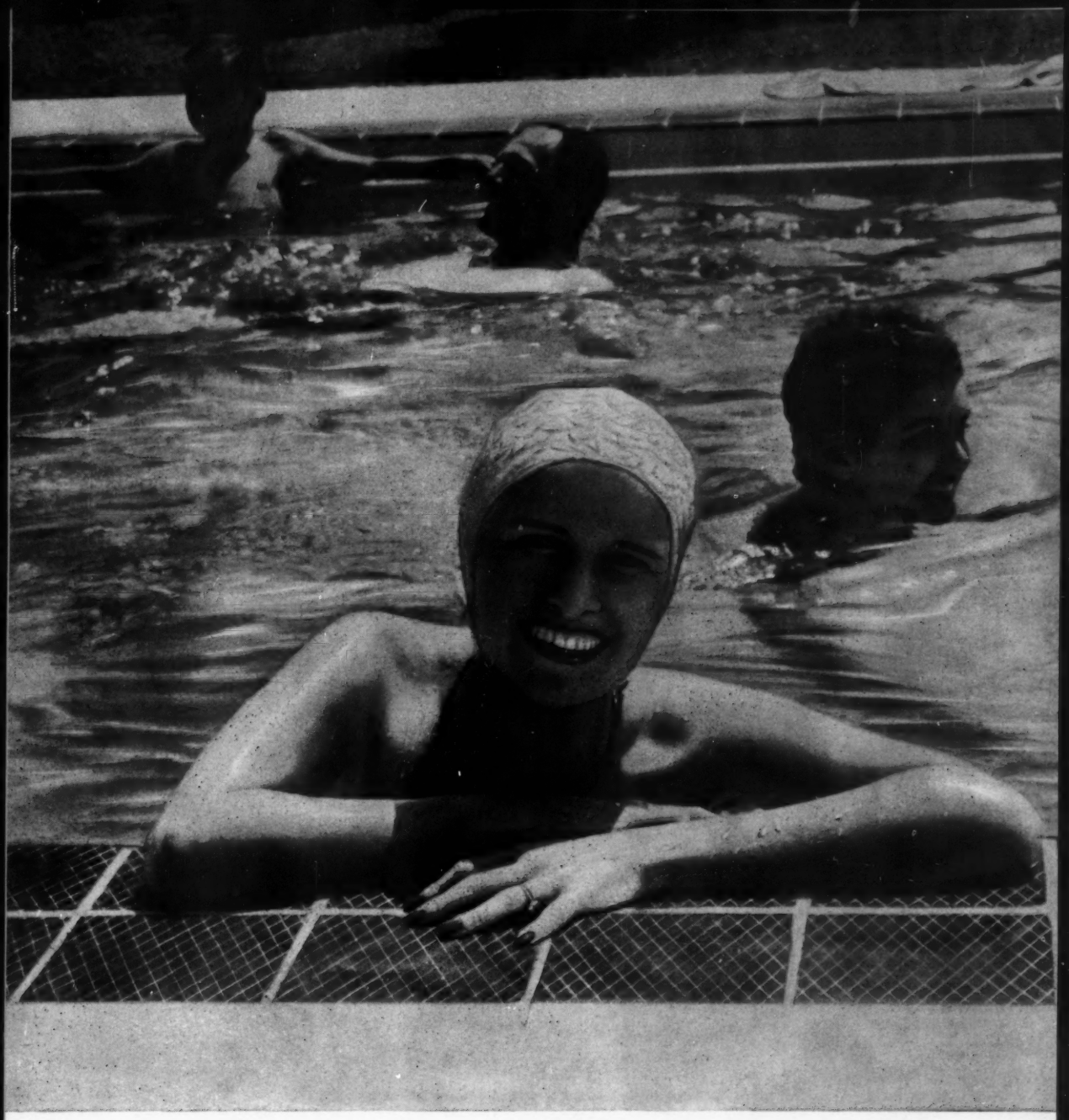

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The patient isn't alone in her devotion to this natural estrogen. Doctors, husbands, and family all like what it does for the patient, the wife, and the homemaker.

When, because of the menopause, the psyche needs nursing—"Premarin" nurses. When hot flushes need suppressing, "Premarin" suppresses. In short, when you want to treat the whole menopause, (and how else is it to be treated?), let your choice be "Premarin," a complete natural estrogen complex.

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with low incidence of sensitivity reactions . . .
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0.5 Gm. TABLETS/NEW ACETYL PEDIATRIC SUSPENSION
LEDERLE LABORATORIES, a Division of
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about
46 CALORIES
per 18 gram slice

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WHEAT, WHOLE WHEAT AND FLAKED OR ROLLED WHEAT FLOURS, YEAST, MOLASSES, SALT, HONEY, MALT, CARAMEL, SESAME SEED, YEAST FOOD, WITH AN ADDITION OF WHOLE RYE, OATMEAL, SOYA, GLUTEN AND BARLEY FLOURS, PLUS DEHYDRATED VEGETABLE FLOURS, INCLUDING CARROT, SPINACH, KELP, LETTUCE, PUMPKIN, CABBAGE, CELERY AND PARSLEY. CALCIUM PROPIONATE ADDED TO RETARD SPOILAGE.

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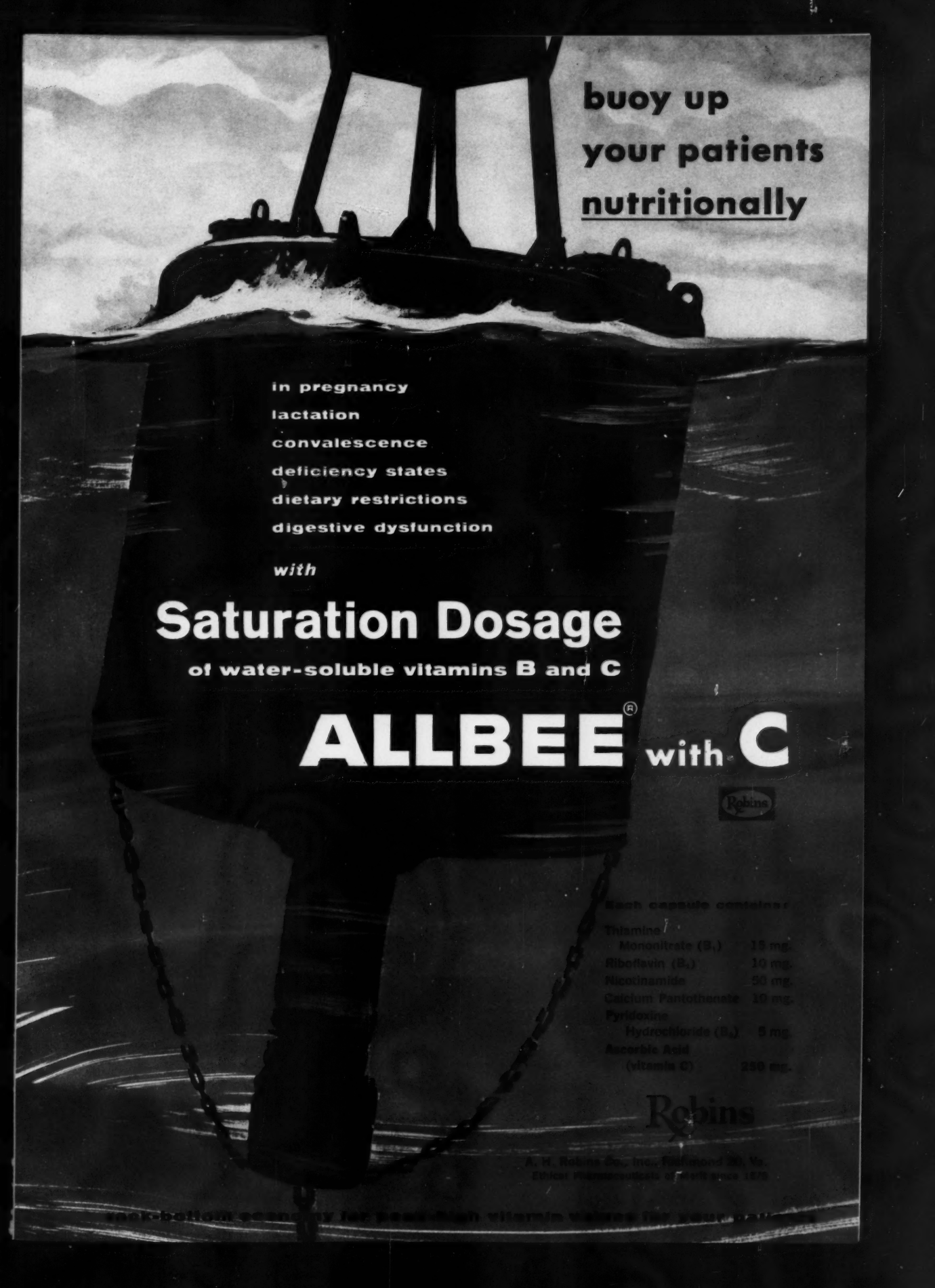
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Ethical Pharmaceuticals of Merit since 1878
rock-bottom economy for peak-high vitamin values per dollar

when the rheumatic disorder is more than salicylates alone can control...

MORE HIGHLY INDIVIDUALIZED THERAPY FOR THE RHEUMATIC "IN-BETWEEN"

...but control requires less than intensive steroid therapy alone

Aristo

wider latitude in adjusting dosage

ARISTOGESIC is particularly effective for relief of chronic — but less severe — pain of rheumatic origin. ARISTOGESIC combines the anti-inflammatory effects of ARISTOCORT® Triamcinolone with the analgesic action of salicylamide, a highly potent salicylate. Dosage requirements for ARISTOGESIC are substantially lower than generally required for each agent alone. The exceptionally wide latitude of dosage adjustment with ARISTOGESIC permits well-tolerated therapy for long periods of time with fewer side effects.

Indications: Mild cases of rheumatoid arthritis, tenosynovitis, synovitis, bursitis, mild spondylitis, myositis, fibrositis, neuritis, and certain muscular strains.

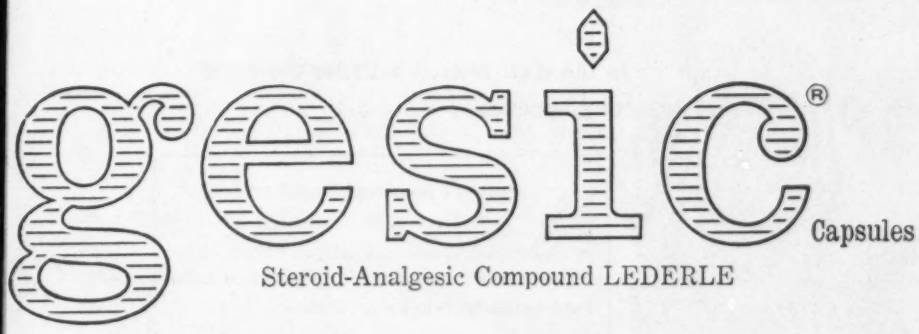
Dosage: Average initial dosage: 2 capsules 3 or 4 times daily. Maintenance dosage to be adjusted according to response.

Precautions: All precautions and contraindications traditional to corticosteroid therapy should be observed. The amount of drug used should be carefully adjusted to the lowest dosage which will suppress symptoms. Discontinuance of therapy must be carried out gradually after patients have been on steroids for prolonged periods.

Each ARISTOGESIC Capsule contains:

ARISTOCORT® Triamcinolone	0.5 mg.
Salicylamide	325 mg.
Dried Aluminum Hydroxide Gel	75 mg.
Ascorbic Acid	20 mg.

Supply: Bottles of 100 and 1,000.



Steroid-Analgesic Compound LEDERLE

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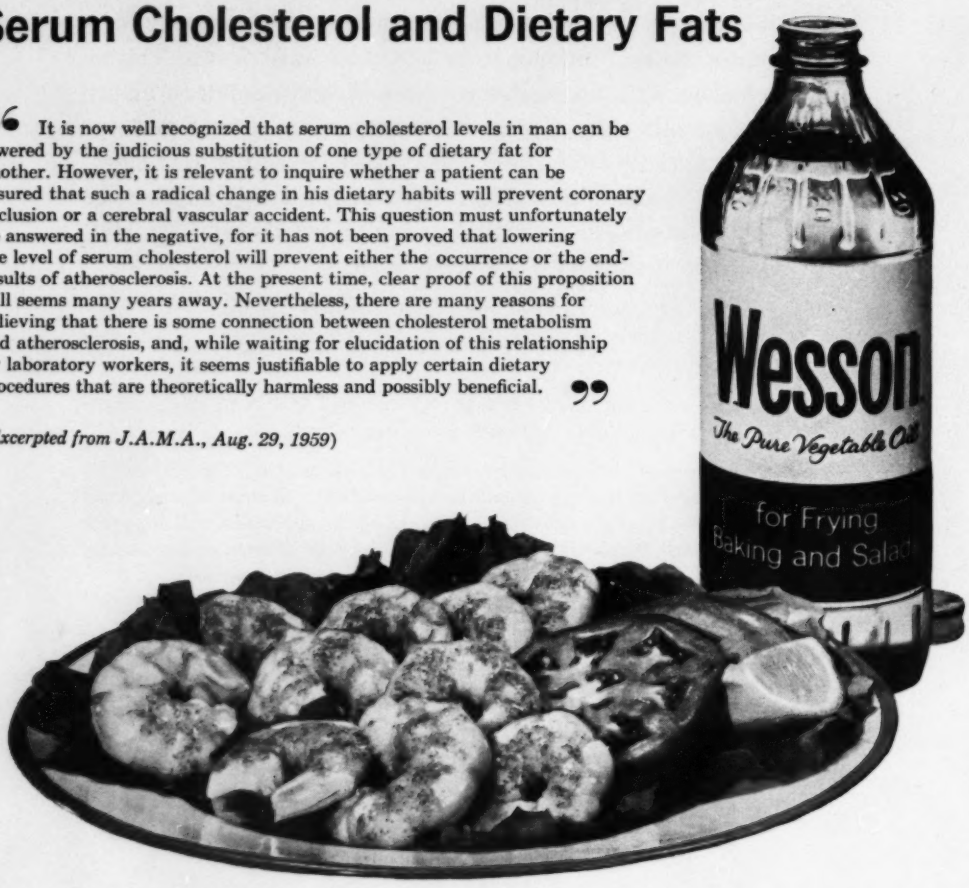
"It is now well recognized that serum cholesterol levels in man can be lowered by the judicious substitution of one type of dietary fat for another. However, it is relevant to inquire whether a patient can be assured that such a radical change in his dietary habits will prevent coronary occlusion or a cerebral vascular accident. This question must unfortunately be answered in the negative, for it has not been proved that lowering the level of serum cholesterol will prevent either the occurrence or the end-results of atherosclerosis. At the present time, clear proof of this proposition still seems many years away. Nevertheless, there are many reasons for believing that there is some connection between cholesterol metabolism and atherosclerosis, and, while waiting for elucidation of this relationship by laboratory workers, it seems justifiable to apply certain dietary procedures that are theoretically harmless and possibly beneficial."

(Excerpted from J.A.M.A., Aug. 29, 1959)



Where a poly-unsaturated oil is called for in the diet, Wesson satisfies the most exacting requirements (and the most exacting appetites).

To be effective, a diet must be *eaten* by the patient. The majority of housewives prefer Wesson,* particularly by the criteria of odor, flavor (blandness) and lightness of color.

Uniformity you can depend on. Wesson has a *poly*-unsaturated content better than 50%. Only the lightest cottonseed oils of highest iodine number are selected for Wesson, and no significant variations in standards are permitted in the 22 exacting specifications required before bottling.

Each pint contains 437—524 Int. Units of Vitamin E.

Wesson's Important Ingredients:

Linoleic acid glycerides	50% to 55%
Phytosterol (predominantly beta sitosterol)	0.4% to 0.7%
Total tocopherols	0.09% to 0.12%

Never hydrogenated—completely salt free

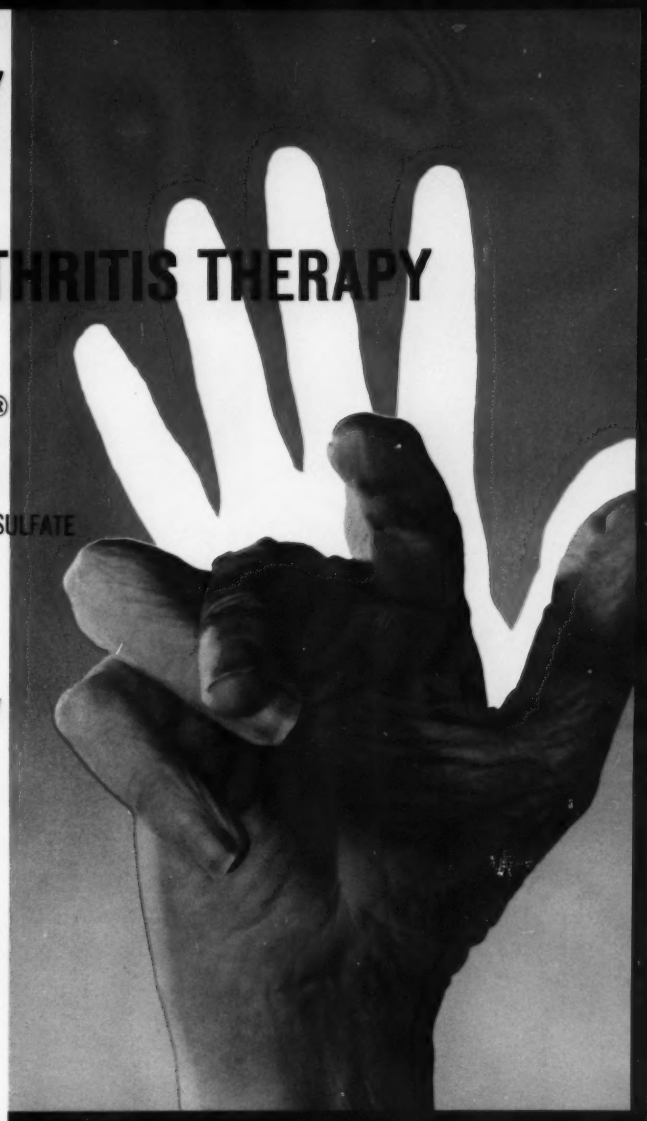
*Reconfirmed by recent tests against the next leading brand with brand identifications removed, among a national probability sample.

MAINSTAY

OF RHEUMATOID ARTHRITIS THERAPY

Plaquenil® SULFATE

Brand of hydroxychloroquine sulfate



New Long Term Chemotherapy of RHEUMATOID ARTHRITIS

"Whatever else may be needed from time to time in the management of individual cases, these drugs [Plaquenil and Aralen] should always be given a prolonged trial (at least six months) as the 'mainstay' of therapy."

Bagnall, A. W. (Univ. British Columbia, Vancouver, B.C.): A.M.A. Clinical Meeting (Scientific Section, Exhibit No. 124), Minneapolis, Minnesota, Dec. 2-5, 1958.

"The 4-aminoquinoline drugs (Plaquenil and Aralen) together with supplemental agents administered in nontoxic doses effectively maintained suppression of the disease in 83 per cent of 194 patients followed for 18 months."

Scherbel, A. L.; Harrison, J. W., and Atdjian, Martin: **Cleveland Clin. Quart. *25:95, April, 1958.***

"When used in tolerated dosage and over a sufficient period of time, there appears to be a tremendous therapeutic potential in the antimalarial drugs. . . . Plaquenil in this study did not have as many side effects as Aralen and thus appears to be a more practical compound."

Cramer, Quentin (Kansas City): **Missouri Med. *55:1203, Nov., 1958.***

Plaquenil is the hydroxy derivative of Aralen® and is available as Plaquenil sulfate in tablets of 200 mg. (bottles of 100).

Average Dosage:

INITIAL—400 to 600 mg. (1 tablet 2 or 3 times daily)

MAINTENANCE—200 to 400 mg. (1 tablet once or twice daily)

Write for Plaquenil booklet discussing clinical experience, dosage, tolerance, precautions, etc., in detail.

Plaquenil (brand of hydroxychloroquine) and Aralen (brand of chloroquine), trademarks reg. U.S. Pat. Off.

NO SALT... *but seasoned*

A meal of even the most colorful and the most meticulously prepared food can be dreary without salt. Neocurtasal, for the patient on a low sodium diet, brings back flavor to food and makes eating a pleasure once more. Neocurtasal is also valuable for preventing potassium deficiency (weakness, etc.) in patients on diuretic therapy with chlorothiazide or its derivatives.

Neocurtasal®

An excellent salt replacement for Salt Free (LOW SODIUM) *Diets*

Neocurtasal contains potassium chloride, potassium glutamate, glutamic acid, calcium silicate and potassium iodide (0.01 per cent)

Supplied in 2 oz. shakers and 8 oz. bottles.

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basic in
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CORICIDIN® Tablets

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chlorprophenpyridamine maleate...2 mg.
aspirin.....0.23 Gm.
phenacetin.....0.16 Gm.
caffeine.....30 mg.

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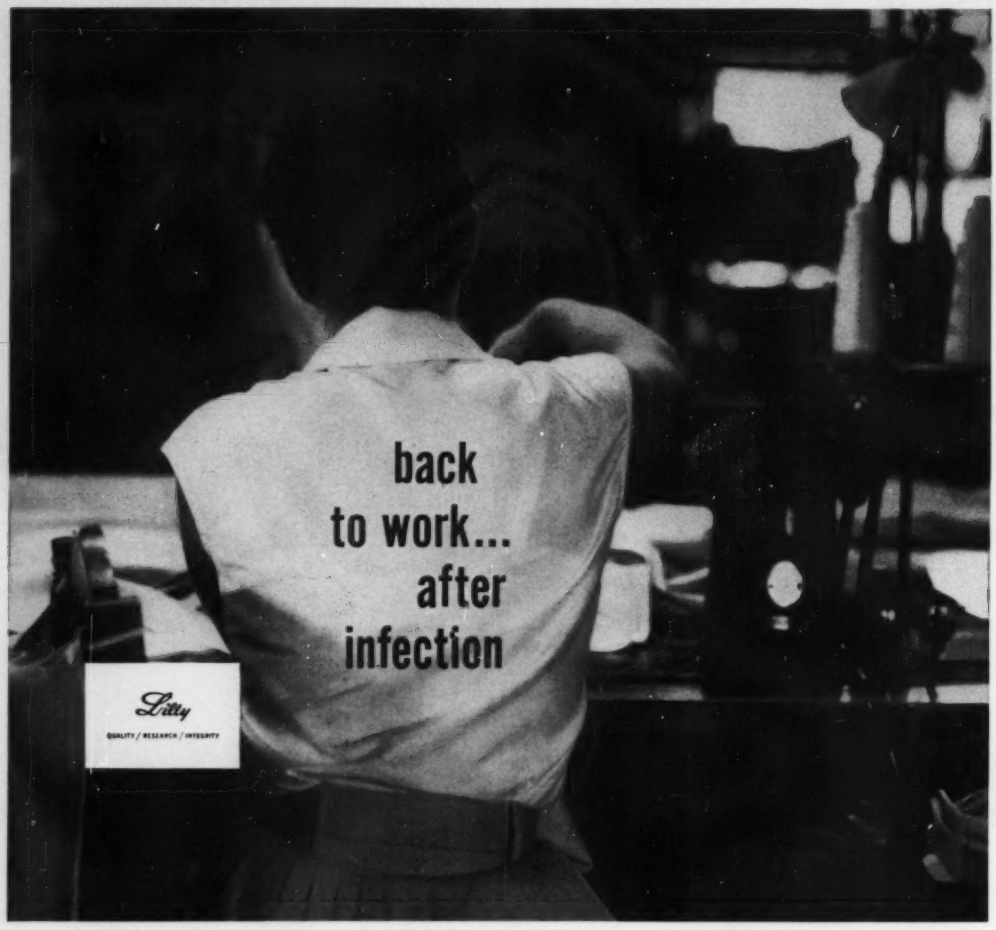

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Infections resolve rapidly with V-Cillin K. All patients absorb this oral penicillin and show therapeutic blood levels with recommended doses. The high blood levels of V-Cillin K also offer greater assurance of bactericidal concentration in the tissues —a more dependable clinical response.

Dosage: 125 or 250 mg. three times daily.

Supplied: In scored tablets of 125 and 250 mg. (200,000 and 400,000 units).

Also available

V-Cillin K, Pediatric: A taste treat for young patients. In bottles of 40 and 80 cc. Each 5-cc. teaspoonful provides 125 mg. of V-Cillin K.

V-Cillin K® Sulfa: Each tablet combines 125 mg. of V-Cillin K with 0.167 Gm. each of sulfadiazine, sulfamerazine, and sulfamethazine.

V-Cillin K® (penicillin V potassium, Lilly)
V-Cillin K® Sulfa (penicillin V potassium with triple sulfas, Lilly)

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DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
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VOLUME 31 NOVEMBER, 1959 NUMBER 11

GRANDEUR AND POVERTY OF MEDICAL SPECIALIZATION*

ASPIRATION TOWARD A NEW HUMANISM

● Doctor Ignacio Chavez is one of the great men of our age. Medicine is indeed fortunate that he chose it as his major field of endeavor. The National Institute of Cardiology in Mexico City is a living tribute to his contribution to the specialty of his choice. In this article, reproduced in its entirety from Circulation, he states with his usual modesty that he is neither philosopher nor historian. The profound message he conveys, a message that deserves the attention of all physicians, belies this statement and shows that, in addition, he is a true humanist.

IGNACIO CHAVEZ, M.D.

The outstanding progress of contemporary medicine is not free of perils. The profound scientific and technical transformation of medicine constitutes one of the crucial problems of our time. This is why Professor Rijlant, illustrious President of the III World Congress of Cardiology, asked me to discuss this problem and its immediate consequence, the pre-eminence of specialization, fertile in valuable achievements, but also pregnant with risks.

THE DANGERS OF SPECIALIZATION

It is true that specialization carries within itself an enormous expansive force of progress, responsible in great part for the spectacular advance which we are witnessing, but it also contains the germ of regression in the intellectual and spiritual realm. Specialization means fragmentation, partial vision, limitation of our horizon. What is gained in depth is lost in breadth. In order to master one field of knowledge one must abandon the rest; man thus confines himself to one point and sacrifices the whole vision of his science and the universal vision of his world. With this in general culture suffers, for it must let go of much, as one who throws out ballast; then his scientific training suffers, for he ceases to look on science as a whole in order to keep a poor little portion in his hands; finally his

*Reproduced from *Circulation*, Volume XX, page 481-487, October 1959, by permission of Grune and Stratton and Doctor Chavez. This originally was a General Lecture presented before the Third World Congress of Cardiology, Brussels, September 1958.

moral world suffers, for the sacrifice of culture constitutes a sacrifice of values which should set the standard of his life. And in this drama of the present day scientist an imminent risk is foreshadowed, the dehumanization of medicine and the dehumanization of the physician.

One who looks only at the thundering race of the progress that medicine is achieving may not perceive the severe risks which that race brings with it. He may not be aware that we are at a crossroads, able to make ourselves change direction, and he may not realize that for these conquests and material advances we may all, perhaps, have to pay dearly — the physician, the patient, and medicine itself.

This is a real problem, not a fictitious one. It constitutes one of the great preoccupations of the physicians, educators, and philosophers of our time. On more than one occasion I have expressed my acute anxiety over this situation, which was unknown to our ancestors. As I am neither philosopher nor historian, I am aware of my slight competence to take up this matter, but since the problem touches me as physician and educator, I have accepted the invitation and I wish to present to you a series of reflections that aim to awake the interest of all, old and young. Above all, I feel it important to address myself to the young, for they are those who will shape the medicine of the future and upon them depends the stamp they will impress upon it as a science, and the form of medicine which they will practice tomorrow as a profession.

I know very well that a long exposition of general ideas is not to the taste of our age, and that physicians usually prefer concrete contributions, new facts, daring technics, or mathematical formulations that define unsolved problems. I understand this attitude; basically all that is beautiful. To conquer a new truth is like seizing a star. Moreover, it gives the feeling of power or the intoxication of triumph, both of which suit the spirit of youth. In spite of that, I suggest that we imagine ourselves students of Hellenic times and walk together through the gardens of Academe or the Lyceum while we discuss serenely some general matters of medicine.

PRE-EMINENCE OF SCIENTIFIC MEDICINE

That we are at a fascinating moment of the evolution of medicine is something that even the uninitiated observe: the advances achieved in this first half of our century are worth as much as all that was accumulated in many preceding centuries. Of course this prodigious advance could not have been attained without the work of those who preceded us. Present science already existed in the germ of the previous work; but the miracle of the seed does not at all lessen the majesty of the tree.

It was in this century that medicine ceased to be purely clinical, and anatomic comparison was no longer enough. A day came when detailed studies of organic function were required. To achieve them, physics and chemistry, biology and mathematics entered medicine, first timidly and then tumultuously, and with them came complex technics, precision instruments, and the rigors of mathematical analysis. It was the heyday of the laboratory and the beginning of a new era, the era of research. The so-called basic sciences came to change the traditional aspect of medicine, attempting to substitute scientific for empirical knowledge, and laboratory experiment for pure observation.

It is impossible to trace the exact limit that separates the two epochs. Never in history has it been possible to say where one age ends and another begins, and one must accept conventional boundaries. Even in the most radical changes, the ages superimpose or overlap, as happened with medieval and Renaissance medicine, when Galen continued to reign in physiology a century after Vesalius had begun his revolution in anatomy. If this happens in ages which are essentially opposed, as the medieval with its scholastic philosophy that became dogma, and the Renaissance with its scientific criterion that became free criticism, even greater difficulty exists in tracing the

starting point of the scientific and experimental medicine of our day.

The fact is that basically the difference is not essential but quantitative; medicine was already scientific earlier, especially that of the nineteenth century. One cannot ask for greater scientific exactness than that of Laemnec's comparison or of Claude Bernard's experiments. Science could not be more precise than it was in the hands of Pasteur, of Koch, and of Virchow, nor was it ever more disinterested and accurate than in Roentgen's experiments. It is not then, that our medicine is scientific and the other was not. The change comes rather from the fact that now it is not only a fragmentary aspect or an isolated field that is being transformed; all the fields of medicine are being attacked scientifically, all are being subjected to experimental methods, and in all, the basic sciences have entered to clarify problems.

Great Contributions of Our Time

No one could deny that the harvest has been extraordinary, not to say fantastic. If we limit ourselves solely to our field of cardiology, we see that in this half century cardiovascular radiology has been born and has attained the technical refinements of kymography, tomography, selective angiocardiography, and radiocinematography. Electrocardiography has been born, with its immense contribution, particularly in the field of coronary insufficiency and mechanical behavior due to hypertrophies or overloading. The fecund exploration of cardiac catheterization has been born, with all that it teaches with regard to pressures, output and flow, tissue respiration and metabolism. We see that almost all that is known of congenital, hypertensive, and pulmonary cardiopathies belongs to our epoch, as well as the knowledge of myocardial infarction, deficiency, and Chagas cardiopathies. We see that with us has been born the surgery of the heart, the mastery over cardio-aortic syphilis and bacterial endocarditis, the control of sustained rheumatic activity and the prevention of rheumatic carditis by means of antibiotics; that our arsenal has been enriched with Fraenkel's strophanthine, Arnaud's ouabaine, Stohl's lanatosides, and all the gamut of hypotensive drugs, mercurial diuretics, vitamins, anticoagulant and antiarrhythmic medication. Why continue an interminable enumeration? The list would include the influence of hormones, the action of enzymes, and the role of electrolytes, all that world of new knowledge which has come to clarify causes and mechanisms in the chapter of diagnosis, and which has endowed us with effective arms in treatment and prevention.

Let the present-day contribution be placed on one side of the scales and on the other the contribution of the 50 preceding centuries, and it will be seen that there is no error in affirming that the recent harvest is superior to the old. If today one of the great cardiologists of the last century, Traube, Stokes, or Potain should come here to a Congress, his astonishment would know no bounds. He would begin by not understanding our technical language. What they could not even glimpse with all their wisdom and experience has today become an easy notion, within the grasp of any medical student.

Scientific Research Under Way

Their amazement at what has been accomplished in 2 or 3 generations would be infinitely greater if they gazed on what is being forged. The visceral pathology that they knew is beginning to be explained in terms of tissue pathology and then of cell pathology; as well as being specific entities, diseases are turning into systemic reactions; in the background of rheumatic fever appears the reaction of fibroblastic tissue; instead of single causes — germ, toxic product or deficiency — complex interactions, allergic shocks, and enzyme actions reveal themselves; behind the organic lesions appear metabolic disturbances, profound biochemical changes or alteration of the physical properties of a cell or a membrane which change its electric charge, its salt interchange, or its richness in ions. When we reach the level of the atom, matter and energy are confused; the limit

between the organic and the functional becomes blurred, and all the immense machine of the organism displays suffering even in its cells and its electrons when a disease sets in. To the astonishment of our visitors would be added the pleasure of seeing that their hypotheses now have validity as theories.

We who are present at these changes also see the progress with delight, but we begin to look with distress at what might be the medicine of tomorrow, the day when the investigations that are being carried on give out their answer. As in the dreams of the alchemists, we should not know what to do with such a medicine, transmuted and dehumanized, converted into a philosopher's stone.

THE ADVENT OF SPECIALTIES — PURE RESEARCH VS. CLINICAL RESEARCH

The natural result of this impressive mass of knowledge and of this technicalization of medicine, of this invasion of the physical, chemical and mathematical sciences, has been the birth of specialties. It is now impossible for one man to know, even in its essential aspects, all this world of medicine. It is impossible for him to follow its rapid transformation; impossible, too, for him to master all the technics of study, so varied and so complex. As a sign of the times, specialties have sprung up, which permit a man to concentrate on one field and study it thoroughly until he masters it. What was an effect of the vertiginous advance of science became afterward a causal factor of that progress.

The advantage of medical specialization can no longer be debated, either in the pragmatic aspect of the profession or as a factor for the advance of knowledge. Each specialty has carried out clinical investigation in its field and all may glory in having furnished a great mass of contributions.

A specialist's research, however, is soon exhausted if he works only as a clinician and technician, without having basic scientific training. The great answers will be formulated in the language of physics, chemistry, and biology, supported by mathematical rigor. A conflict has arisen which appears more clearly each day, that of pure or basic research as opposed to applied clinical research. The "pure" scientists look on this latter with disdain as pragmatic and limited in its scope, and they even deny it the rank of science, claiming that it does not go much beyond empiric knowledge.

This is a grave error, which inhibits the collaboration between the two groups. Applied research may be as scientific as the other, though the two differ in their goals and their immediate results. It is true that disinterested research is that which usually gives the clue to the great scientific problems. It is true that Einstein's relativity theory made possible the study of atomic radiation and provided the basis for medication by radioactive isotopes, that Fleming's discovery made possible the manufacture of antibiotics and solved the treatment of infectious diseases, and that Planck's quantum theory is the truth which must some day explain the processes of oxidation in cell life and the transformation of chemical energy into electrical, — the basis of nervous activity, — or into mechanical, — the basis of muscular activity. But research applied to clinical medicine, though it is usually modest, is not therefore less noble, provided it is carried out with scientific method. The regulated experiment in the laboratory animal cannot be compared to the natural experiment provoked in man by disease. As long as the clinical investigator takes into consideration the numerous variables and does not fall into false schematizations, he can achieve experimentation as rigorous as that of the laboratory and of the same scientific value.

As proof of the foregoing, there are the extraordinary contributions which we owe to clinical investigation. Mellanby rightly asked what we should know of vitamins B_1, C or D, of insulin, thyroxin, and of the active principles of the liver and the stomach in pernicious anemia if experimentation had not been carried out by clinicians in the field of pathology.

One must then, react against the tendency observed in the younger generations to consider only laboratory investigation scientific and to look with disdain on clinical research, as if it were a kind of secondary value. It is one of the many fetishes that the man of study creates, forgetting that the scientific quality does not depend on the tools that are used, but rather on the method which is followed, and that merit does not rest on the method, however scientific it may be, but on the creative idea. There is much laboratory research which is worth nothing because it is empty of content. Simmel has made the accusation that we have suffered for some time from a fetishist cult of method and we consider any contribution very valuable because of the simple fact that the method is impeccable, and there are even studies that justify the caustic phrase of Chesterton, that "much research reminds one of a blind man looking in a dark room for a black hat that is not there."

In reality, the two kinds of research are not strangers, and should, on the contrary, complement each other. Studies in the field of the normal may be made at the same time as those in the field of pathology; observation mates well with experimentation, and the contribution of analysis are solely the necessary stage by which to arrive at the work of synthesis.

Scientific Training of the Specialist

For the specialists, cardiologists in our case, however, to be able to participate in this joint movement, they must have a sound scientific training. This should be an indispensable requisite today. It is no longer enough to be good clinicians in the traditional sense of the word. That may be well for the practical ends of the profession but the cardiology of today is too much inlaid with exact sciences to be mastered without a solid scientific foundation. "You cannot become so much as a modest engineer here until you have first done the mathematics and the physics from which any true understanding of science must spring. You cannot be a specialist until you are a scientist," said Jacob Bronowsky to his students. We should say exactly the same today to those who wish to specialize in our field. "*You cannot be specialists in Cardiology if you are not at the same time clinicians and scientists.*"

To know traditional clinical medicine, to master the usual technics, to be informed of current theories, this is enough to make a practical cardiologist, but not a specialist in cardiology. The former are clinicians in the noble sense of the word, but they are clinicians of circumscribed activity, of limited range, very useful in the social community, but less so in the scientific community. The true specialists, on the other hand, are those who can advance the knowledge in their field.

This requirement that the specialist be a scientist as well as a clinician does not imply any scorn for traditional clinical medicine. The place of the latter is different, very high and very noble. I have referred to the specialist fitted for investigation, but I do not seek to have all cardiologists consecrated to it. I think, like Sir John Parkinson, that in every first class hospital a place of honor beside the scientists should be kept for the superior clinicians, those who are just that, clinicians of knowledge and experience, in whose hands the finest traditions are preserved and the trust and safety of the patients repose. They too live their special science, which is to keep men alike. They know that with a certain dose of science, and another of experience, a man is saved.

Science vs. Humanism

When the requisite of two-fold training is fullfilled by the specialists, there will arise even more seriously the problem already mentioned in relation to the great development of sciences: I speak of their divorce from humanism. And the more the specialist cultivates his scientific side, the greater will be the risk. There will appear in him the tendency to overspecialization, which threatens to destroy the criterion of unity in science and which will make im-

minent the divorce from humanism.. There is no worse form of spiritual mutilation in a physician than the lack of humanistic culture. He who lacks it may be a great technician in his craft, may be a learned man in his science, but in all else he cannot but be a barbarian, wholly ignorant of that which gives human understanding and sets the values of the moral world. And that, in a cardiologist, is unforgiveble.

Humanism is not a luxury, nor a refinement of scholars who have time to waste in frivolities disguised as spiritual satisfactions. Humanism means culture, understanding of man and his aspirations and miseries; — evaluation of what is good, what is beautiful, and what is just in life; the setting of the standards that rule our internal world; the eagerness to excel which leads us, in the philosopher's phase to "match life with thought." The pursuit of is something else; it makes us strong but not better. Therefore the more learned the physician is, the more cultured he should be.

The humanists of the Renaissance, sated with the barbarous world in which they lived socially and with the obscure intellectual world of the Middle Ages, produced the great movement of the liberation of conscience. They reascended the river of history to seek contact with Greek culture; they sought inspiration in the great classics of literature and philosophy and learned to free themselves from scholastic dogmatism, utilizing reason. They realized that the major interest of man is that of looking at man, in order to know and understand him. Their vision then attained the breadth of the world and they could proudly shout Terence's phrase: "*homo sum, humani nihil a me alienum puto.*"

The world then experienced a miraculous hour that will never again be repeated in history, for there will never again be the happy conjunction of circumstances that engendered it. In that miraculous hour, Leonardi da Vinci exemplifies the prodigy, showing what is "a man capable of whatever a human creature can do"; Copernicus makes our world descend from its geocentric throne and sends it spinning humbly in its orbit; Vesalius initiates the revolution of medicine against the authority of texts; Michael Angelo creates another world texts; Michaelangelo creates another world in the Sistine Chapel, and makes marble speak: "*parla e per che non parla?*"; America rises from the ocean, divined by Columbus; and Asia is sketched on the horizon, announced by Marco Polo and confirmed by Vasco da Gama; and the printing press, the great renewer, undertakes to diffuse throughout the world this marvelous conjunction of rebellions against medieval life and scholastic thought.

It was this splendid humanism which engendered our modern world, which in the intellectual realm launched us in search of truth, questioning nature herself; and in the artistic aspect inculcated in us the love of beauty, free from sin; which in the spiritual realm infused in us the aspiration to be universal men, and which, revindicated in the moral realm, our higher dignity as men.

HUMANISM AND MEDICINE

It is this precious heritage that has given the physician through the ages, his superior position and his authority over his patients, making him a counsellor and guide, not only a physician. His culture has permitted him the understanding of the human problem that is enclosed in each clinical case, and understanding means sympathy. The physician is not a mechanic who is to repair a sick organism as one repairs a machine that is out of order. He is a man who looks at another man, with eagerness to help, offering what he has, a little of science and a great deal of understanding and sympathy. Why should we let this fundamental human aspect be lost? It comes not from our science but from deeper roots, from our culture, which sets us a duty, and from our sensibility, which translates, to paraphrase Peguy, an impulse of the soul toward goodness.

It is useless for the skeptic to smile. He thinks that with his technic and his science, he needs nothing more to master cardiol-

ogy; but he will be incomplete, a cripple, if he is not also rich in culture, deeply impregnated with humanism, a humanism rooted before he reaches the University, continued through all his medical studies, and prolonged afterward indefinitely throughout his whole life.

The skeptic's smile might perhaps be justified if it were argued that the scientist and the humanist adopt at times opposed and in a way antithetic positions — the humanist with his face turned toward the remote past, the scientist living solely in the present minute, avid of the latest finding, uninterested in the already surpassed knowledge of yesterday. These extreme situations fortunately are not the rule. The scientist who proceeded thus would prove that he does not deserve the name if he does not know that the science of today lacks foundation and meaning without that of yesterday, for it, according to the expression of Sarton, "is the only human activity which is truly cumulative and progressive." No, fortunately, these two conquests of man, science and culture, are neither opposed nor mutually exclusive; rather, they fraternize and complete each other harmoniously when man joins talent and sensibility.

The Humanism of Our Age

Faced by this situation, we may properly ask what is the humanism that is commended as a complement to scientific education. Is it classical humanism, that which cultivates the dead languages, glosses the Greek and Latin classics, and probes the history of philosophical thought?

It is not that, certainly. It would be a beautiful ideal if scientists could attain such a refinement of culture, recreating the archetype of the universal man. That has become impossible in our vertiginous age. There no longer exists the omnivalent man of that stature, such as was Leonardo, who with equal competence prepared a *Treatise of Anatomy* in 30 volumes, painted the *Last Supper*, or worked out calculations so that man could fly, or such as were Alberti, Fracastoro, or Erasmus or so many others who could equally well hold a chair of medicine or one of languages or one of philosophy.

Our age no longer permits such omnivalence. The humanism we pursue is not the traditional nostalgic one, as Lain Entralgo calls it, that looks only backward. There is room for a humanism of our time, dynamic and effective. "In the Beginning was the Word," says Holy Gospel. It is the same in our case; the root of present humanism must be the knowledge of the principal living languages. Through them we shall be able to look at the thought of races and countries which are not ours and drink information at the very springs. We shall receive in passing the lesson in humility that science and culture do not end at the boundaries of our country. The whole world seethes, the whole world works and creates. How should we go on, in isolation, ignorant of ourselves, at once owners and prisoners of our own language? For scientific ends this constitutes a limitation of ignorance, and for human ends, it pushes us toward incomprehension, the first form of scorn. Already in the middle of the eighteenth century Sénac protested: "National prejudice," he said, "dominates even the scientists; many imagine that genius and knowledge are exclusive to their country and that the other nations are condemned by nature to sterility. This vanity may perhaps be useful to the States," he added, "but it is something that degrades the spirit." Because of all this I think that in the world of intelligence one's own language does not suffice and if a scientist is to be cultured, he should begin by cultivating languages.

Since it is an eternal aspiration, culture is not a universal and static thing; it changes and shapes itself according to the time and the place. Hence the knowledge of history is an essential requisite for contemporary humanism, broad history, of peoples, of covilization and of men's thought. We physicians are interested moreover, decisively, in the history of our specialty, which shows us the evolution of medical doctrines. Jacobi said to his students: "For as without the knowledge of

the history of your country you can not understand its structure, or without that of the embryo the full development of the body, so without that of your science and art you will not be a citizen in your profession."

In compliance with the duty imposed by culture, man must afterward immerse himself in the world in which he lives, feeling himself not a stranger, nor even a pure spectator of the social reality that surrounds him. He may be barely an atom of this world, if you wish, but alive and vibrant, a creative energy of his time; for one cannot conceive culture divorced from life itself, nor genuine humanism uninterested in the problems of man.

And when one has attained all this, the knowledge of languages and of history in its broadest sense, when one recognizes social reality and is interested in the hour in which one is living, the humanism of our age would be sad and dull if man did not adorn his spirit with selected readings, with frequent contact with the modern classics, with love of beauty — in word, music, or plastic are — and with reflection on the eternal themes of conduct — duty, love, goodness — all forms of sublimating the soul in the face of the hard reality of living. The march along these harsh paths of perfection leads up to a point, the same at which the classic humanists arrived, that of knowing that the highest concern of man must be man himself, in order to study and understand him, with all that this implies of interest in his life and respect for his creative effort.

This is the humanism which we must foment in our age, a humanism the deeper and more passionate, the greater the limitation imposed by an exigent and unilateral scientific education. This is the indispensable prescription for the specialist of today, that which teaches that what is important is not to know but to understand; to understand man, to understand the world, to understaand one's position in life; that which, moreover, aids him in developing the gift of sympathy with which he must approach the patient. As by a catalytic effect, humanism projected into science invites man to flee from selfish isolation and impells him to work nobly in collaboration at the same time as it offers him a formula to counteract, in large part, the harmful tendencies that rise from specialization — those of the scientist who isolates himself from other men, the specialty that separates itself from other specialties, the medicine which separates itself from other sciencies, and the science which divorces itself from culture.

HUMANISM, A CORRECTIVE FOR SCIENTIFIC DEFORMITY

The situation of isolation and divorce is accentuated more each day. The younger generation seems not to have noticed it. I have been able to watch it at close quarters, because I have spent many years dedicated to the training of specialists in cardiology. In almost all of them one notes a passionate eagerness to master the technic rather than to possess themselves of the method, and the cult of the apparatus is more easily developed in them than a passion for scientific ideas. It is the characteristic error of our epoch which Samuel Ramos points out, that of raising the means to the rank of an end. "Before the marvelous results of technic," he says, "the scientist falls on his knees to her, forgetting that she is a simple means." On the other hand, general theories matter less to the young, and the problems of culture are wont to interest still less.

It is possible that the smile of the skeptic will appear again as he thinks that there is exaggeration in this, and that culture, though estimable, is more of an adornment than a necessity for the medical specialist. I, on the other hand, consider it as indispensable as scientific discipline itself, and because of this I say with complete conviction to all my students: *you cannot be good cardiologists as long as you are not cultured men.* This is a new way of repeatin gthe old saying of Paracelsus in the sixteenth century: "It is a gross thing for a physician to call himself a physician and

find himself empty of philosophy and know nothing of it."

The humanist spirit imbued in the scientist obliges him to flee from pure pragmatism as a philosophy of medicine and forces him not to be content with facts without going deeply into their explanation, and not to let himself stick fast in accumulated data without seeking the theory which makes a whole of them. This attitude helps to clear up one of the great problems of our present medicine, which is fragmentary, disarticulated, rich in facts, and poor in theories. In earlier times there were too many theories and a lack of support by facts. Today when we have learned the lesson of "*saper vedere*," today we have an excess of facts and few general theories. Little analytical men abound and we lack superior men who can work out syntheses, whereas the true scientific spirit rests precisely upon alternating the two things. "Analytical investigations," says Sarton, "without synthetic attempts must necessarily degenerate into crude empiricism; synthetic construction without periodic experimental contact must necessarily degenerate into a sterile dogmatism."

The humanistic spirit instilled into the scientist keeps him from reposing a mythical faith in science, or believing it to be of absolute value, and helps him to understand, humbly, its relativity, and to admit that science will never cover the entire field of medicine; that however great, however excessive its progress may be, there will always be a very broad field for the empiricism of knowledge, for the "chaste observation" of our ancestors. If all organic reactions could one day come to be measured, recorded, and even reproduced in the laboratory, there would always remain outside the rigorous control of physics and chemistry the psychic reactions of the patient, his sufferings and his anguish, as would the obscure genetic factor which has governed us since the beginning of time.

If it is not to be supposed that all this will fit within the rigidity of a mathematical formula, and if he who suffers is a man and not a machine or a laboratory retort, there will always be a place for the clinician to give voice to an opinion and lead medicine in the future as he has led it until now. Therefore he should not abandon his high human values and he should stubbornly enrich his culture. If because of the exigency of the age, his specialization turns toward pure science, his humanism will help him to bow with humility before the immensity of what he does not know. Shortly before his death, Newton, one of the giants of scientific thought, said sadly: "I do not know what I may appear to the world, but to myself I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."

I think it is time to stop. While we walked through the garden of Academe, discussing these general matters of medicine, the afternoon has ended. The sun has set beside the Pireus and there is only to be seen the brightness, half rose and half gold, of the sacred hill of the Acropolis. By good fortune this light is enough to guide our steps.

The Delaware Valley Chapter of the American Medical Writers' Association will hold its annual contest in medical writing for interns and residents early in 1960.

This contest is an effort to stimulate interest in better medical writing. Three prizes are awarded. Rules and regulations will be published in the near future. All manuscripts will have to be submitted by April 1, 1960.

THE ROLE OF THE PHYSICIAN IN DIABETES MELLITUS:*

Oral Medication vs Insulin

ANTHONY M. SINDONI, JR., M.D.**

The role of the medical doctor in Diabetes Mellitus is of vital importance.

If you observe carefully the medical literature and the accomplishments of the various research centers throughout the world, you will note that the increased progress made in helping to solve the mystery of diseases is far too vast or complicated for one person to grasp. Such a situation has caused many investigators to select their particular branch of study so as to be able to delve more deeply into its mechanism. The result has been to give them a clearer and better understanding of their own course of studies. Their newer revelations or discoveries, however, have created more problems and specialties.

An increased array of laboratory specialists — such as radiologists, bacteriologists, micro-biologists, virologists, physiologists, hematologists and chemists — have already made themselves evident. Many physicians are acquiring a better understanding of certain disease processes by keeping abreast of the studies of such laboratory workers. Some classify themselves according to their particular clinical field of study or specialty based upon a disease or group of diseases — such as communicable or tropical diseases, cancer, tuberculosis and public health — or upon the diseased organ or organs and areas of the body involved or affected, i.e., disorders of the gastro-intestinal tract, respiratory (lungs) system, kidneys, joints, skin, heart and circulatory system, glands, eyes, as also nervous system, blood and metabolism. There are also physicians who restrict their practice to diseases which are based upon the age period of life — children (pediatrics) and old age (geriatrics). Another important phase of medical specialty is physio-therapy or physical medicine as also anesthiosology, space, aviation and submarine medicine.

In the surgical field we find a similar situation of specialties: The surgeon who restricts his work to those disorders of the brain and spinal cord, chest and lungs, bones, female pelvic organs, kidneys, bladder and prostate, rectum, heart and blood vessels, nose, ear, throat; also the one who repairs and corrects deformities (plastic surgeon), and many others.

Unfortunately, most of the combined accomplishments or results of the various laboratory investigators and the specialists have been too voluminous and complicated for the busy general practitioner to grasp and utilize for the benefit of mankind. In due time, however, we expect to correct this

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situation by assembling and integrating these findings, simplifying their clinical application, and making them easily available to the physician. Then, only, will man receive the maximum benefits of the newer medical achievements.

Incidence of Diabetes Mellitus

Since time and space does not permit me to delve more deeply into the general investigative phase of medicine, I will try to restrict my remarks to one of the many aspects of medicine — our modern conception of diabetes mellitus.

To treat an ailment or condition such as diabetes mellitus and its associated disorders with greater success, the physician ought to be widely informed of its incidence, causes, symptoms, mode of diagnosis, pathology, complications, prognosis and treatment.

In perusing the literature on diabetes, especially its incidence in our country as well as throughout the world, one will note that diabetes constitutes a major health problem. According to Wilkerson,[1] in 1953 it ranked eighth as a cause of death in the United States. It is also of interest to note that in 1950 approximately 100,000 new cases of diabetes were discovered, while in 1954 there were approximately 2,000,000 known cases of living diabetics.[1]

What is of great concern to the medical profession according to Wilkerson is the one million or more unrecognized cases which do not have the benefit of adequate medical care. This condition becomes more serious when one realizes that the proportion of unrecognized diabetics continues to rise. It is estimated that the dabetic population is increasing at a rate twice that of our total population.

Based upon statistical observations, it is anticipated that within another five year period diabetes (including associated vascular diseases) will rank third as a cause of death for the entire population of the United States. If the mortality continues to rise, as based upon the present rate, it is predicted that by 1980, deaths from diabetes will be surpassed only by deaths from heart disease.[2]

Complications

To a measurable degree our modern therapy has conquered diabetic coma and increased the life expectancy of a diabetic, but the circulatory complications are graver, affecting the usefulness of man either partially or completely, as well as taking his life. These vascular complications affect the most vital parts of a diabetic's body — his eyes, heart, kidneys and lower extremities.

In our Metabolic Ward where the patients of the lower income group are cared for, slightly less than one-half of the patients admitted suffered from vascular degeneration.

The true etiology of the vascular conditions associated with diabetes is still unknown. There are many theories advanced by the various schools of thought to help substantiate their clinical findings of the close association of vascular degeneration with diabetes and diet. Since this is a controversial issue, we can say only that we are still in a quandary concerning the true relationship of the associated vascular diseases in diabetes to hyperglycemia. But the real danger that faces the individual with diabetes today is vascular complications.

Etiology

There appear to be diversified opinions concerning the factors in the causation of diabetes. This lack of unity of thought is probably based upon the varied methods employed by the laboratory workers in inducing diabetes by affecting pancreatic islets and its insulin mechanism.

In animal experiments the pancreas revealed definite pathological changes in the beta cells of islets as the responsible site for the disturbances in the carbohydrate metabolism. But when observations were made in the human diabetics, it was found that this was not wholly true, because in certain cases there existed a lack of correlation between the islet or beta cells change and hyperglycemia.

It is sufficient to say that the true cause of diabetes is unknown. We believe, however, that diabetes, a disturbance of the carbohydrate metablism, is brought about by a disturbance in the insulin mechanism. From all clinical evidence we are also safe in making the statement that the immediate cause of diabetes is related to a deficiency of endogenous insulin.

There are certain conditions which have been observed to favor the inception of diabetes. Heredity is certainly a contributory factor.

Age apparently plays a significant role. It was formerly the belief of many persons that diabetes was a condition of the aged. The increasing incidence of diabetes among children apparently has disproved this belief. More than one fourth of the people acquire diabetes under fifty years of age, and one half between the ages of fifty and sixty-four years. Thus, diabetes appears from all observations to be most prevalent in people over 40 years of age.

No sex differences were noted in children, adolescents or young adults as to the prevalence of diabetes. After 30 years of age, however, it became more prevalent in the females, twice the frequency being noted in females between 45 and 65 years of age.

The onset of menopause apparently plays a large role in the increased incidence of diabetes in females.

The famous statement, "Fair, fat and forty," once made by an eminent surgeon concerning the condition of the human being in a period of life when most diseases or abnormalities make their inception, still holds true.

Diseases of liver and biliary tract have been observed in 25-30 percent of the patients before the occurrence of diabetes.

Various disturbances of the endocrine glands, such as the thyroid, pituitary, and the adrenal, apparently play a role in the causation of hyperglycemia in some cases.

Trauma and infections are not uncommon factors precipitating or aggravating diabetes. "Traumatic diabetes" is occasionally spoken of in persons who develop diabetes following an accident and has presented many legal conflicts. Such a term is misleading and incorrect, for experimentation indicates that it probably doesn't exist. That emotional factors often play a role in aggravating or precipitating diabetes becomes more apparent when one observes the increased incidence of diabetes in patients who have had financial or social setbacks.[3]

In summarizing the factors which help to bring about diabetes, we cannot help asking ourselves a vital question when we are confronted with a child or apparently normal looking young adult with newly discovered diabetes — "Why did she or he develop diabetes?" I can say only that I do not know; nor do I know exactly why anyone develops it.

Symptoms

That the busy physician occasionally overlooks the so-called asymptomatic diabetic becomes apparent when the first inkling of diabetes is the discovery of sugar in the urine during a routine examination in the course of some illness, or for a life insurance policy.

Of all the diseases or disturbances, I believe diabetes is the most treacherous because it is free from pain, produces no fever, and is not contagious.

The "mild" cases or those cases without symptoms can be found only after a thorough examination. The urine may reveal sugar only after a high carbohydrate meal. Fortunately, in most instances there occur cardinal symptoms, as increased thirst brought about by the increased blood sugar concentrations, causing dryness of the tissues, especially in the mucous membranes of the mouth.[4] This dryness is aggravated by increased intake of sugar-containing foods. Increased urination and appetite are important symptoms too, as is nocturia.

The polyuria is often in proportion to the thirst.

These symptoms are rarely present when the blood sugar level is less than 250 mg. It is interesting to note, however, that there are a number of patients with an elevated blood sugar without increased thirst, urination, or weight loss.

The increased urination frequently leads to dehydration of the body which often gives a drawn appearance. Some clinicians are of the belief that the dehydration may be a contributory factor to the "cramps" in the legs at night.[3]

In many instances the weight loss may be rapid and marked. The patient cannot understand why he is losing weight with the increased appetite and food intake. The failure to utilize sugar causes a gradual waste, first in body fat, then in the muscles. This condition is gradually followed by muscular and general weakness, aching, and sensation of heaviness of the legs, which becomes most marked when one attempts to climb stairs or perform physical exertion. With the gradual impairment of the carbohydrate metabolism, there occurs an increase in the symptoms. The patient becomes depressed and lacks ambition.

Symptoms as related to organs or areas involved[3]

Nerves: The neurologic symptoms or signs which manifest themselves, such as tingling and numbness of the legs and feet, are often the onset of sciatica which has not infrequently caused the patient to seek medical advice. Oftentime the pain is of such severity, and the symptom of diabetes so mild, that it is not uncommon to overlook the underlying factor, diabetes. Frequently associated with the neuritis is a general depression, as well as the loss of sexual libido and potency which at times becomes serious enough to bring the patient to seek medical aid.

Eyes: It is not uncommon to observe visual changes as early signs of diabetes. Refractory changes have been noted in 2 to 6 percent of the patients with diabetes. Cataract and retinopathy have also been observed to occur in patients with asymptomatic diabetes. The extremely high incidence (8.4 percent) of diabetes among the blind is another sign of their close relationship. Retrobulbar neuritis and diplopia (6th nerve neuritis) are not infrequently seen in diabetes. For such reasons the ophthalmologist has frequently been able to detect diabetes before the patient is aware of its presence.

Skin: Even though observations by a few investigators have revealed no difference in the incidence of boils and carbuncles between diabetics and non-diabetics, it is my belief that the onset of diabetes is not uncommonly precipitated by the above skin conditions. We have seen patients admitted to our metabolic department in diabetic acidosis precipitated by carbuncles. True the incidence of these skin lesions may be the same in the diabetic and non-diabetic, but in a diabetic it may prove serious or even fatal. We therefore advise examination for diabetes in all such cases.

In many instances skin disturbances, either general or local pruritis especially in the region of the genitalia, may be the first sign of diabetes. We have observed an increasing number of diabetes in women whose only sign was a vulva pruritis. The latter condition is frequently seen in the young as well as in the old women. We have seen such conditions in the older women diagnosed as senile vaginitis.

Renal: Since Kimmellstiel-Wilson Syndrome is frequently observed in mild diabetes, it is not uncommon to observe a patient with renal involvement seek medical advice and overlook the associated disorder, diabetes. Glucose tolerance test performed in patients with mild to severe albuminuria reval that diabetes was present in a small percentage of the cases.

Dental affections: It is often the duty of the dentist to suspect diabetes in the absence of symptoms in patients who seek oral treatment because of painful gum abscesses

or pyorrhetic gums as well as loose and sensitive teeth.[5]

Vascular or Arteriosclerotic Manifestations: The incidence of coronary disease in diabetes is twice that of non-diabetics. It is not uncommon to observe patients with marked cardiac symptoms with asymptomatic diabetes. Therefore it should be the routine to suspect diabetes in all cases of coronary artery disease.

Suspicion of diabetes in every case of peripheral artery vascular disease should not be overlooked. The earliest signs of vascular disease are not infrequently present in the feet. Bell[6] claims that on the basis of arteriosclerosis alone, gangrene occurs 40 times more frequently in diabetics than in non-diabetics.

DIAGNOSIS

The diagnosis of diabetes is a simple matter in most cases and can be made from the symptoms — increased thirst, appetite and weight loss.

There are cases of diabetes, however, that are mild and present no symptoms of diabetes except glycosuria.

Even in those cases of asymptomatic diabetes with negative urine for sugar, when the patient is overweight but has a diabetic background, diabetes should be suspected.

Women who have given birth to babies above the average weight should not escape the suspicious diagnosis of diabetes.

There are cases of slight hyperglycemia following cerebral injury which are often diagnosed as diabetes. Such cases should be carefully examined for symptoms as well as given a thorough laboratory examination.

Simple tests in Diabetes[3]

Practical laboratory examinations of urine for sugar, proteinuria and ketosis are not time-consuming and can easily be performed by the physician in his office. The materials necessary to make these newer simple tests are available at the various retail pharmaceutical stores.

The value of these urine examinations is apparent when it is realized that there are many persons with positive laboratory findings who present no significant symptoms or signs of diabetes. When urine is positive for sugar, ketone bodies, or albumin, the patient should be subject to detailed laboratory examinations of the blood such as the glucose or meal tolerance tests.

MODERN THERAPY

Oral "Substitute" for Insulin

Today the medical profession has approved three oral preparations: Orinase (Tolbutamide) (Upjohn Co.); Diabinese (Chlorpropamide) (Charles Pfizer and Co.) and DBI (Phenformin), a chemical compound synthesized by the Arlington-Funk Laboratories, Division, U. S. Vitamin Corporation. However, none of these are true substitutes for insulin. The first product, Orinase (Tolbutamide), is the result of an investigation which began in 1942 and continued to 1955 when its results with diabetic patients were more apparent. Since this latter date, the tablet has been released by the Food and Drug Administration for the physician to prescribe for his patients in the treatment of diabetes. It has been claimed by the manufacturer that over 500,000 patients are upon Orinase therapy with apparent success.

A more recent oral hypoglycemia tablet, Diabinese (Chlorpropamide) has also been released (by Pfizer & Co.) for physicians to prescribe in the treatment of diabetes. It has the same indications as Orinase, but it is somewhat more potent, requiring less dosage. Another newer drug called DBI (Phenformin) has also been released in the treatment of diabetes.

The future of the tablet treatment will depend much upon the co-operation of the patient with the doctor and faithfullness in carrying out the doctor's orders.

There are patients who will respond favorably to the drugs and may be able to continue its use for a variable period. In

such patients the tablets may have proved of such value that some of them may be able to discontinue their use and control the diabetes with diet alone. This has already occurred in a small percentage of our patients.

The Future for Insulin Therapy

Insulin therapy however is still the "Rock of Gibralter" in the treatment of diabetes; for without it, the life of a diabetic is insecure.[3] It is a hormone and supplies the deficiency which is responsible for the diabetic condition. Every diabetic should know the types of insulin, how to sterilize a syringe, a needle, the measure of insulin in units or dose on the syringe; where, how, and when to inject; signs and symptoms of insulin reactions or shock; and know how to avoid and treat them, because he will sooner or later require insulin, especially when the diabetes becomes aggravated or complicated by infections, surgical conditions, or coma.

Since diet and insulin are essentially the two forms of therapy (excluding for the moment the "oral" substitutes) there seems to be some controversy as to their methods of application. Although most physicians, today, are in agreement as to diet-therapy; there is still much disagreement in the application of insulin.

When insulin therapy made its inception in the treatment of diabetes, all physicians were practically in agreement as to its application. They accomplished their immediate goal — returned the diabetic to the ranks of a useful citizen — but with little regard to the prevention of accelerated vascular complications.

The increased incidence of these latter conditions, however, has created newer problems for the physician in diabetic therapy. Are we, as physicians, treating our diabetic patients too vigorously with insulin in the hope of warding off or decelerating the onset of premature vascular degeneration? Should the laboratory findings — reduction of hyperglycemia to that of the level of the normal or non-diabetic's 80-120 mg.% — be the sole control in our therapy of diabetes?[7]

Avoidance of Premature Vascular Degeneration?

Since the true etiology of premature arteriosclerosis in diabetes is unknown, and the results of our statistical and clinical survey revealed that "(a) the apparent known duration of diabetes plays no role in the incidence of vascular complications; (b) that there is no relationship between blood sugar levels and complications; (c) and that there is no relationship between the average insulin dose and vascular complications," it must follow that the correct therapy for the prevention of these degenerative disorders associated with diabetes is still unknown.[7]

In view of the absence of the true etiology of diabetes and the possibility of multiple etiological factors, we ought to try to individualize our therapy — reduce the blood sugar to the compatible level with the aid of insulin or one of the oral tablets, or both if necessary.[7]

I cannot be too strong in my insistence upon the foregoing statement; for insulin, insofar as we know today, is the only assured protection for all diabetics.

Conclusion

In conclusion, we may add that today no sacrifice is too great to help combat the increasing prevalence or premature arteriosclerosis in diabetes. This can be accomplished by establishing medical research centers and co-ordinating the various branches of medicine throughout the country and the world.

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DYSMENORRHEA AND*

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Laurence L. Fitchett, M.D.
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Chairman Stern: Tonight we are fortunate in having with us three representatives that I think will discuss this subject of dysmenorrhea very adequately. As you know, dysmenorrhea is a symptom complex that has been a problem to womenfolk ever since the beginning of historical times. In fact, in our Egyptian and early Persian literature there is quite a lot said about this painful monthly occurrence in women. Since our women have become more free from their usual household activities and have entered into the world of business, we find that next to the common cold, dysmenorrhea causes more loss of hours than possibly any other condition. It is impossible to adequately decide or to evaluate what this loss really is.

Two Classifications

Now, the dysmenorrhea or the symptom complex which we call dysmenorrhea is divided into two classifications, namely, that of primary dysmenorrhea, which is an ideopathic condition in which as far as the condition is concerned, no clinical findings can be found. In other words, nothing can be found on pelvic examination, or physical examination. The second type of dysmenorrhea, is so-called secondary dysmenorrhea, which is usually associated with some pathological condition such as residual pelvic inflammatory disease, endometriosis, the congestive fibrosis syndrome of Taylor, or what you may.

The exact mechanism of what causes dysmenorrhea is still a question. As Osler once said, any disease that has numerous cures is not clearly understood and we do not really have a cure. That is true of dysmenorrhea. We can think of many things that can cause dysmenorrhea, namely, cervical obstruction. In fact, McKenzie in Scotland once wrote that there is no dysmenorrhea without an obstruction to the cervical canal. This is a questionable fact because we know that usually even in many of these patients that have dysmenorrhea,

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**Moderator of Panel.

PREMENSTRUAL TENSION*

● Premenstrual tension and dysmenorrhea frequently are seen in everyday practice. The majority of these patients can be treated successfully by the general practitioner after careful consideration of all factors in the individual case. A few obviously require the specialized care of a psychiatrist, endocrinologist, or surgeon. Sometimes it is difficult to determine which of these specialists is indicated.

uterine sound passes without difficulty up to the fundus.

Secondly, we have the question of hypoplasia of the uterus. Even though dysmenorrhea does occur in many cases of hypoplasia, we know a lot of women with hypoplasia that do not have dysmenorrhea.

Finally, there is a question of the hormonal balance between estrogen and progesterone. It is known that estrogen is a vasodilator and progesterone is a vasoconstrictor, and it is thought that possibly in a lot of these conditions that progesterone overrides the estrogenic level and causes a predominance of vasoconstriction in the terminal arterioles. No matter what the cause is, the treatment at the present time is the important factor, and the treatment has many facets. And these facets I think might well be introduced by introducing Dr. Fitchett of the staff of the Milford General Hospital, who will discuss this problem from the viewpoint of the General Practitioner who primarily sees these patients. Dr. Fitchett.

The General Practitioner's Viewpoint

Dr. Laurence L. Fitchett: Mr. President, guests, members of the Society.

The problem of dysmenorrhea, including premenstrual tension, is familiar to all of us. As a syndrome of unpleasant symptoms, frequently distressing enough to require medical attention, it is often met with in our offices. It can, and frequently does, have a direct bearing on her industrial efficiency if the woman is employed, and on her community and domestic relationships. The very success of her marriage may be threatened by it.

The symptoms of premenstrual tension may be so mild as to be virtually unnoticed by the majority of women. When severe enough to interfere with her well being and the performance of her usual daily tasks, premenstrual tension becomes a medical problem. The syndrome is recurrent, begins two to twelve days before the onset of menstruation and complaints may include:

1. Nervousness, emotional instability, irritability.
2. Depression.
3. Headache, backache, aching in the thighs.
4. Swollen tender breasts and abdominal puffing.
5. Edema.
6. Nausea and gastrointestinal upsets.

In any specific individual the pattern is surprisingly consistent with each recurrence. Oftimes, anticipation of the apparently inevitable distress is a major element in adding to her discomfort.

The syndrome is a complex one and more than one etiological mechanism is involved. I will mention only three. The retention of water and electrolytes is certainly responsible for many symptoms. Others believe that an allergy, possibly to ovarian steroids, often causes some of the symptoms by increasing vascular congestion. Certainly the background factors of emotional instability or immaturity often present, will aggravate and intensify symptoms.

A thorough understanding of the problems involved is a prerequisite in the proper handling of each case. A good history is a must, and is often most revealing. A sympathetic attitude, with reassurance that her complaints have a truly organic basis, and are not just the result of "nerves" is often immensely relieving to the patient. Medication should be simple, as inexpensive as possible, free from disturbing side effects and, most important, effective.

Methods of Therapy

Possibly the most widely used method of therapy attempts to rid the body of excess fluid. This fluid amounts to at least two pounds in a person with symptoms of premenstrual tension and to over five pounds in an individual with severe symptoms. A low salt diet is often not a practical solution for the busy woman who has little time for special dietary care for herself. Ammonium chloride is not always well tolerated, although when it is, it is often successful. It is given in one gram doses t.i.d., for ten to twelve days before the period. Diamox, 1 tablet daily before breakfast for a similar period, is an effective diuretic in this condition and is easier to take than the ammonium chloride.

Another useful preparation in this group is bromaleate, known by the trade name of Neo Bromth, each 80 mg. tablet containing 50 mg. of pamabrom, a theophylline diuretic, and 30 mg. of the anti-histamine pyrilamine maleate. With this combination of drugs an attempt is made to rid the patient of her edema fluid and to treat the allergy that may be a factor in the symptomatology. Given in doses of two tablets morning and night at the onset of symptoms, treatment covers usually two to six days before each period.

If these methods are not entirely successful, and apprehension, tension and antisocial problems seem dominant, then a tranquilizing agent may be used. Frequently, stigmata of endocrine dysfunction are present, such as scanty menstruation or hypermenorrhea and the use of progesterone or androgen may be indicated. The other members of the panel will discuss the use of these drugs and the various other procedures that are available. No one single approach will do for all patients; each woman will have to be individually treated. But help is available for the majority through their family doctor. The remainder, those difficult to diagnose or those presenting special problems, may still be helped by their referral to the proper specialist.

The woman with dysmenorrhea presents a somewhat similar, challenging problem to the practicing physician. I shall confine my remarks to what some term primary dysmenorrhea. These cases all give the history of having had difficulty since the menarche, whereas secondary dysmenorrhea usually occurs after some years of normal menstruation and is associated with pelvic pathology.

Actually, distinction between primary and secondary, organic or psychogenic types is inconclusive. Even when menstrual disturbances have been medically or surgically corrected there may be no proof that the

origin was not emotional or that any lesion was sufficient to provoke the pain. Conersely it is known that even when pelvic disorders are not demonstrable, they may still exist.

Emotional Factors a Cause

Both the physiological and the emotional status of the patient with dysmenorrhea must be evaluated. Her attitude toward and knowledge of menstruation must be understood. Her character upbringing and early acquired precepts certainly have a bearing on her attitude toward this physiologic process. The inaccurate and misguided instructions given at puberty, a time of great emotional experience, may frequently result in neurotic fears which will have conditioned her attitude toward menstruation.

It is of the utmost importance for the physician to understand the degree of emotional disturbance present before any extensive therapy is planned, because, though symptomatic relief is important, it will be of no enduring value if the dysmenorrhea is only one manifestation of a more serious psychiatric disorder. We may be misled by an incomplete knowledge of the causative elements and only further disturb the patient. For example, an unwarranted surgical procedure or a long series of injections might have an adverse psychologic effect and still further increase her anxiety. I often think of a patient of my own experience, over twenty years ago, who had severe incapacitating dysmenorrhea. After several months of symptomatic therapy, and finally a consultation with a gynecologist, now deceased, we agreed upon an artificial menopause with radium. This stopped her dysmenorrhea, but her symptoms were merely shifted to another part of her anatomy. She still remained a severe psychiatric problem complicated now by a surgical menopause.

In the treatment of these dysmenorrhea problems I believe the first thing is to establish a good relationship, based on confidence, between patient and doctor. A good bit of the success of the treatment depends on this. Clearing up misinformation and misunderstanding about her menstruation will help. Reassurance about the fears resulting from previous diagnoses and examinations is important. How often does the "tipped womb", the "bad ovary", or the "cyst on the ovary" become a neurotic focus in these women and rear up to haunt the practitioner for years.

Along with reassurance they must be given relief, and the non-addictive analgesics and antispasmodics are helpful. I have used a combination of aspirin, phenobarbital and tropine as a basic formula for several years. In this tranquillized era this might be considered as therapeutic decadence, but the fact remains that it is helpful, economical and there are very rarely any side reactions.

Ovulation and Dysmenorrhea

Most cases of primary dysmenorrhea are associated with ovulation. The production of non-ovulatory bleeding cycles with the use of hormones is often justified and relief is great. I shall not go into this at all; other members of the panel will discuss it, except to say that the oral route is to be preferred in most cases. Nor shall I discuss the surgical measures necessary for some cases.

The point I have attempted to make here is that with a careful history and physical examination, with a sympathetic approach to her problem by gaining her confidence and understanding, the great majority of these women can be helped by the general practitioner. It can't be done in one or two brief office-hour visits, but it can be done in several, over a period of time. There are those that offer more difficult problems. For them, the prompt recognition of this fact and their referral to the proper specialist will hasten the time when they can more fully assume their role in the home and the community.

Thank you.

Chairman Stern: As one can see, this problem has many facets. And as Dr. Fitchett has pointed out, the treatment is not an overall picture but rather an individualization of each patient that comes to us for

treatment. Recently the psychic has played a big part in the practice of medicine. We are becoming more and more conscious of the psychomatic aspect of medicine, especially in the female of the species, the pubertal girl and the woman who has reached past her puberty and possibly has not married, these frequently can raise quite an issue. There are many facets that we have to consider in these cases. We have to consider the family background, the general reaction of the patient to her surroundings, her generalized emotional stability, and also her fears and phobias especially regarding the phenomena of menstruation, or possibly even that of child bearing.

I believe that we are very fortunate in having with us today to discuss this important side, Dr. Fischer, who is Assistant Professor of Psychiatry at Temple University School of Medicine. Dr. Fischer.

Dr. H. Keith Fischer: Dr. Stern, fellow panel members, and members of the Society:

The psychological and emotional aspects which play an important role in the development and persistence of dysmenorrhea are derived from two general sources. The first source is historical, cultural and environmental. The second source is the mother herself who supplies specific conscious intellectual, verbal and emotional attitudes, and the more crucial unconscious identifications. Together these constitute the earliest and most influential blueprint concerning her menstrual and genital femininity available to the developing girl.

On the historical and cultural side, as far back as the mythical Garden of Eden it was said that woman must henceforth bear her children with pain and suffering in punishment for the transgressions of whatever happened there. Religion still includes this in its reports on the origins of man. I might add parenthetically here that Dr. Stern has added some more data from the Good Book of Exodus, that if you will permit me to remember his reference, implies that the woman is practically a taboo subject for seven days after her baby has arrived. I should have included that at this point. Irrespective of the exact details of the mysterious events which transpired in the fascinating Garden, a good deal of speculation supports the idea that the seductive female was 51 or more per cent responsible for the episode and its sequelae.

Emancipation vs. Rebellion

The American woman, however, has made remarkable strides in her social emancipation from many of these archaic concepts. On the other hand, she is still probably, and frequently correctly, rebelling against the indictments which have associated female sexually with witches and badness. In addition, the prevailing opinion that sexuality is an animal male pleasure and prerogative, to be accepted passively by the woman as a duty which she performs for her husband, is no longer tenable. Fortunately, both American men and women seem to be progressing to the point where the intellectual acceptance of female sexuality as being normal and equal to the male's constitutes a step in the right direction. The intellectual awareness that modern woman has achievements in these areas which rightfully belong to her, the passing of favorable legislation and the coup d'etat which many women have performed in capturing the family purse-strings, has not, however, influenced the deep and most important psycho-biological determinents within the woman herself. These inner elements change much more slowly and involve basic infantile and immature ideas, conflicts and emotions concerning her female genitals, menstruation, babies and sexuality. These latter, which are far more important than intellectual and cultural attitudes, are derived from childhood experiences and are dominated initially and chiefly by identification with the patient's mother herself and the child's own early life experiences and appraisals.

Because of the intellectual and cultural improvements concerning the woman's enlightened role, there would appear to be less dysmenorrhea than existed previously.

I would attribute the resulting progress in a large degree to the better preparation which the modern American mother gives to her young daughter for the normal event of menstruation.

Background History a Key

If the physician asks the patient for a description of her initial menstrual period, her preparation for it and her reaction to it, he will be impressed with finding that the initial menstrual period most likely occurred without any physical pain. More likely the report will be to the effect that the girl discovered that she was bleeding almost as an accidental incident in the course of her usual activity. In many instances she reacted with initial alarm. Her first panicky thought might consider that she had hurt herself inadvertently, or not infrequently, consider the event to be related as a mysterious sequela to forbidden masturbation. These irrational appraisals may exist and be laden with intense emotional conflict even though the patient may have been given some preparation for the menarche by her mother or others in her environment. In the emotionally healthy girl, the neurotic appraisal is soon disregarded. In the less emotionally healthy, these distortions become conditioned and persist as a part of the personality.

One patient was so concerned and upset about her menstruation that she successfully concealed it for the first six periods. She had been conditioned unconsciously and previously with ideas concerning the unacceptable and taboo aspects of the genital and menstrual activities. She was guilty, ashamed, disgusted and frightened by it all at such an early age that the subsequent dysmenorrhea and conflict about her genital and feminine sexual self constituted a defect of great proportions in her personality structure.

Some authors have suggested that dysmenorrhea is more likly to appear with the "tomboyish" or athletic type of girl. I would disagree with this opinion and conclude that the emotional aspects of dysmenorrhea are not related to any specific personality type but appear to be a part of specific conflicts associated with conscious and unconscious distortions related to the feminine genitals and menstruation itself.

A wide range of meanings are commonly associated with menstruation in the patients themselves. Women have their own names and their own symbols for menstruation. Menstruation can signify that the girl is "healthy" or that she is "sick". It can indicate that she is not pregnant, but that she is capable of being pregnant. One girl can think of menstruation as associated with "good girl" and another as "bad girl". One girl says that she is "hurt", another says she is "hit". One may make menstruation "clean", another "dirty". What do girls really mean when they say, "I'm off the roof"?

Dysmenorrhea and the Sex Factor

In spite of accurate information concerning the nature and meaning of menstruation and in spite of healthy identifications from the environment and the patient's mother herself, menstruation is frequently a secret and mysterious event which in some manner permits "witch stories" and "horror tales" to be associated with it. If emotion is invested in these distorted thoughts concerning her own genitals and menstrual activities on either a conscious or unconscious level, the disturbance in body physiology may result in dysmenorrhea. This requires appropriate therapy. On the other hand, it has been reported that dysmenorrhea, if it does not begin at puberity, may begin and coincide with the time the girl at a later age begins to tackle adult sexual problems. In this situation, dysmenorrhea is a symptom which reflects both tension and stress in her effort to adapt, adjust and develop, as well as meaning that there are specific conflicts related to the genital, sexual areas.

Case No. 1

Let me report a verbatim account of one mother's attitudes and thoughts concerning her genitals, their functions and her problems with them. She is now 35 and is

undergoing psychoanalytic psychotherapy to correct her extreme difficulties.

Ten years previously she had a healthy baby. Following this there were two spontaneous abortions, an 8-month stillbirth due to cord strangulation and another spontaneous abortion.

Concerning herself she says, "I am a third sex. I am either both masculine and feminine or no sex at all. I'm peculiar. I've always felt ugly and unattractive and I was surprised and amazed that men would find me attractive."

Concerning bodies and genitals she said, "Bodies are ugly. I dislike menstrual periods, babies, impure, unclean and repulsive things. Babies are all right if they are inside you, but I never want it to come out. Genitals are exciting and repulsive and linked closely to love and hate. I can't understand why there should be good feelings coming from such a bad place. You go to the bathroom with the same place. If anything is exciting it must also be cruel. The man has to force the woman to make her like him."

Concerning her stillbirth several years previously and her ideas about babies in general she said, "At the delivery of my dead baby I still recall the doctor pulling the dead baby out of me. He was a little boy. They wouldn't let me see him. They pushed my stomach. I got pain. I couldn't breathe. It was all for nothing. How could I have a dead baby? The cord strangled him. Mother did it. They described my baby, but I picture him as a skeleton in a box. It's buried in the same cemetery with my father in a part reserved for stillborns. My husband won't let me visit his grave. I would only punish myself. I wanted a boy. To me the child was never born dead. It was alive. I felt him inside me. I couldn't believe he was dead. I think of father's death. It wasn't real. I knew he'd come back. Father would have been happier for my baby. I like to feel my baby is buried where father was and that they are together. I have to have my babies for others—my father, my grandparents, or for my own little boy. I can never have a baby for myself. I thought I could have a pregnancy and have a baby for myself. It would fill an emptiness. The baby would make me good. I've always been bad. I have to prove I'm good. There must have been some good in me as a child. Yet I fear if I had a child, he would go through the same as I. I wanted a girl for myself. But I can't think of her in sexual relations. It's cruel. It's wrong. It's mutilating to the girls and maybe to the boys or both. The girls suffer. It's a bad place where babies come from. Vaginas are ugly, they bleed. They have to be covered and never exposed. Women would really be better without them. It is all right to feel nice funny things when you're going to the bathroom, yet you can only feel nice if it is in secret. And you can never let anyone know that there is anything good going on in such bad organs."

Concerning the pregnancy which went to the successful conclusion, ten years previously, the patient said, "I could never picture myself having a baby, full-term and healthy. At that time I ordered a layette but asked them not to mail it until I called. I couldn't picture myself going through it satisfactorily. Sometime I would picture my husband as my baby. I loved him deeply and hated him horribly. But all this was too overwhelming to give to a real baby. Any thinking or talking about a baby stirs me up. I made some baby clothes. I have them hidden away. I get them out and I cry. I can't part with them. I tell myself that some day I'll have a baby for them and then I get sentimental. When I went in for my first delivery the doctors were ready to give me a shot for the pain. I wanted to suffer with the pain. It was so horrible! Since I had felt life inside me I had been sick, but I was really happy with the pregnancy in an unreal and ecstatic way. In the hospital when I gave birth to my boy I heard a woman screaming. The nurse said she was under an anesthetic. My pains got worse. Then I called for help, and I was told to shut up. I screamed for my father.

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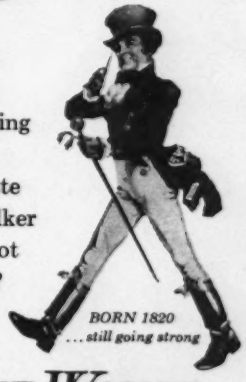

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1. Innerfield, I.: Clinical report cited with permission
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A. M. E. F.

Some internes poked me. My own doctor didn't come. They put up side boards; my legs were black and blue. I suffered from 4 a.m. until 11 p.m. I asked them to do something. I told them I didn't want the baby. One woman nearby said that her baby was coming and everybody left me and went over to her. I pretended that my baby was coming but no one paid any attention. Finally I did reach down and I felt something hard. I yelled that it was really coming. Then I got a shot. This baby was healthy. Then I got a breast abscess and some penicillin shots. Next I hemorrhaged and I was so exhausted that I couldn't take care of the baby. I wasn't up to being a mother. Anytime the physician said I needed help with my emotions, my husband didn't believe me and we changed doctors.

What would a daughter of this anguished mother learn from her about menstruation, feminine genitals and their functions?

Case No. 2

A 25-year-old girl who has found herself in a panic which has forced cancellation of an engagement and marriage, discusses her feelings as she becomes more and more concerned each month at the onset of her menstrual period. She says, "I began menstruating a week early this month. I have a funny feeling in my mouth. It is dry and I almost think I can taste blood. I awake in the morning nauseated. A part of the time during the day I am calm and at other times I can't stand the thoughts that are going on inside of me. I have given up smoking. I can't stand their taste and besides my fingers start shaking.

"I was always afraid of my mother. She told me if I were bad she'd cut my tongue out, so I was careful never to be bad. I was terrified. I often had nightmares. I guess I thought people would beat me up or hurt me. I was so scared as a child I wouldn't be other than angelic. At the age of 12 I changed. I was inwardly defiant. I would secretly stick my tongue out at them. They'd think I was a sweet girl but then I started to rebel openly. Really mother didn't want me to grow up. She would be afraid I'd compete with her for father. She never liked the way I looked. My mother is jealous.

"I always have sexual feelings with the menstrual period. And for the last several months I was afraid that with each period I would go out of my mind.

Early Education in the Home

"I had no advance information about menses even though I had a sister six years older. The first period frightened me to death. The day previous I had been to New York with mother. She went down the escalator. I was afraid to go too. The next morning I went to the bathroom after Sunday School and found I was all wet. It was blood. It frightened me. I thought I had cut myself. I was afraid mother would yell at me, but I told her and sister about it and I cried. Mother asked sister to give me information about menstrual periods but sister said that I was mother's daughter and not hers. It was February 27th and I still remember it.

"I really thought I would bleed every day for the rest of my life. I stood rigidly still. I was afraid if I moved the bleeding would be worse and wouldn't stop. All mother told me was that menstrual periods were linked to pregnancies and babies and that I wouldn't have a baby without this. She said that the man planted the seed and that the flower bloomed, and that she'd tell me more when I got ready for marriage. I thought babies were cut out of the stomach. We were very modest and I was shy. It was wrong to look at bodies. I never saw any of my parents nude and even if I did I wouldn't dare look at them. My sister laughed when I asked her how you could go swimming if you were bleeding every day for the rest of your life."

To many girls the menstrual period is mysterious, confusing and frightening because it is something they cannot control. I might add in elaboration of this point, almost every other bodily function you can control to a far greater degree. You learn

to control bowel, bladder, eating, sexuality and so forth, but menstruation is about the only one that no degree of conscious or intellectual will can influence. And to have something go on that frightens a person and have no conscious intellectual control over it is really quite emotionally significant. If, in addition, the menstrual period is associated with strange and frightened feelings with meanings which have become a part of the girl's intellectual and emotional investment in the bleeding period, it is easily understandable as a normal physiological event which has been transformed into a terrifying burden. The great fears and concern can thus disturb the total functioning of such persons and at an even more important level, interfere with her ever achieving any rewarding feminine genital successes.

The developing girl who has to struggle with such conflicts can adjust with several general personality patterns.

Three Patterns

The first pattern would find the little girl consciously and intellectually accepting the feminine role. She appears, dresses, looks and acts like a little lady and entirely feminine. On the other hand, her conflicts are pushed into her unconscious, where she is aware of the details only vaguely or not at all, and in such a manner that repressed emotional tension may cause disturbances in the body physiology resulting in dysmenorrhea, and a variety of pelvic and more diffuse body symptomatology.

A second adjustment may find the girl renouncing the feminine role. She develops a variety of masculine habits and identifications. Sometimes this tendency is only partial and the personality shows a confused pattern of both feminine and masculine characteristics. This individual often has difficulties in her personal and social relations, but may or may not have enough repressed conflict for local pelvic symptomatology. This adjustment may work fairly well in the adolescent years, but it tends to fail with resulting mental or somatic symptoms coinciding with later efforts toward sexuality, marriage, child-bearing or menopause.

The third pattern will find the woman attempting to avoid all genital and sexual function. She tries to be no sex at all and withdraws emotion and libido from these things. Some women are rather successful psychically and physically with this adjustment. Others will be quite sick.

In each of these three patterns, the women are seeking to adjust to their own genitals, their functions and their feminine role. Some do well, many more fail completely or in varying degrees at varying times.

The Physician's Sympathetic Ear

The physician who is initially involved with patients with dysmenorrhea will wish to get the patient to talk. He will want to ask about preparation, ideas, emotion, worries and reactions. With a facilitating manner, the modern American Woman will be encouraged to talk and she will usually respond freely.

The physician should attempt superficial "common sense" psychotherapy in these cases, especially when consultation occurs soon after the onset of symptoms. The family physician can orient the patient to consider dysmenorrhea without organic cause as a true psychosomatic condition. He can correct distorted ideas and information and offer emotional support to the young lady and her mother attempting to solve these problems.

As all physicians do, he applies his therapies to the extent to which they help the patient. If his own psychotherapeutic skills and interests are limited, or should the patient require more skilled and advanced psychotherapy, he will wish to make other arrangements for it.

In the light of progressing insights regarding the treatment of the causes of dysmenorrhea, such an approach is the only rational therapy.

Next month's issue of the JOURNAL will continue the panel discussion on Dysmenorrhea and Premenstrual Tension.

President's Page

The medical profession of the United States faces its greatest challenge of all time.

Proponents of socialism are trying very hard to establish an entering wedge which will start the toboggan ride to complete Federal control of the health services. Our Federal government is already overburdened and cannot efficiently handle a job of such magnitude.

If the Forand bill becomes law, estimates by reliable sources are that Social Security taxes will be as high as 20% in a short time.

We can and we must help prevent such a calamity by:

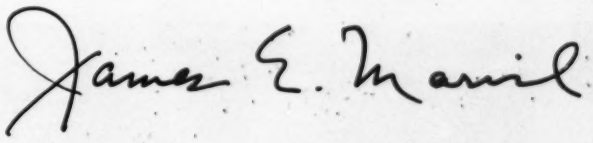
1 — *Electing* intelligent well informed persons to represent the people in Congress.

2 — *Furnishing* the lawmakers with facts regarding health matters.

3 — *Giving* special attention to patients in the aged group so that:

a. They may be covered by voluntary health insurance.

b. We as physicians are sure that we are rendering the best medical service possible at rates the aged and underprivileged are able to pay.



President, Medical Society of Delaware

TWO-WAY RADIO CONFERENCES UNDER WAY

Groups of Delaware physicians are meeting simultaneously in their own communities to participate in live radio conferences in a new experiment in medical education.

The feature which makes this project outstanding is the two-way discussion period which follows each lecture. The moderator of each group collects, sorts and chooses questions to be discussed and is the only physician actually heard on the air from his station. The order of discussion rotates, starting from a new location each week.

The individual participant is entitled to a written answer by mail to any question which cannot be answered in the time allotted.

The program covers all of the general hospitals in Delaware, four of which are equipped to talk back in the discussion session. Above are Dover physicians convening in the Dover Hotel where a room is reserved for this purpose. Moderator is Lawrence M. Baker, M.D.

Wilmington group meets in the Delaware Academy of Medicine. The Delaware, Wilmington General, Memorial and St. Francis Hospitals also hold seminars but are not equipped for a two-way hookup.

Beebe Hospital is host to the Lewes group. Lunch is served at each location, permitting the busy physician to participate with the least possible interruption of his daily schedule. Arthur Tormet, M.D., is moderator.

The lecture series, under the sponsorship of the Medical Society of Delaware, the Pennsylvania Hospital and Smith, Kline & French Laboratories, was initiated by the Society's Committee on Education under the direction of Dr. Lewis B. Flinn, chairman at that time. Dr. Fred MacD. Richardson, coordinator of professional affairs for the Pennsylvania Hospital, is doing the actual production of the program.

Transmitted over FM radio facilities by Station WHYY, the licensed educational channel for Philadelphia, the two-way radio program is picked up with the aid of booster amplifiers and various kinds of antennas. Another two-way location which has not been shown here is the Nanticoke Memorial Hospital in Seaford. Robert Kingsbury, M.D., is moderator of the group for that area.

Doctors in the Milford area meet in the Milford Memorial Hospital. Program topics were selected by polling all the doctors in Delaware as to specific subjects they were interested in. Dr. Laurence L. Fitchett is moderator.

Editorials

Guest Editorial

Doctor Rudolph Dreikurs, Director of Child Guidance in Chicago, recently addressed a thousand parents and teachers in Delaware. He said that we do not know how to get along with children. Not one of the thousand challenged the doctor's statement!

Some people say that the trouble is a lack of religion in the home. This is truly a serious matter, yet some very religious parents have problems with their children.

Too little love is considered by many as the chief cause of the difficulty. It is indeed tragic for a child to be unloved — but many parents who love their children cannot successfully guide them.

You often hear it said that a child is "not mature." Well if he were mature he would not be a child. I would not want my child to be mature. I do not want to be mature myself. Webster's Collegiate Dictionary defines mature: "Ripe; fully grown; having run to the limit of its time." To be ripe is all too near becoming overripe. To be fully grown leaves no room for further development. Having run to the limit of its time is pitifully final.

In all seriousness, too many people (both young and old) are mature mentally. They have developed such rigid patterns of thinking that they cannot look for nor accept new ideas. This may often be attributed to their parents and teachers, who have instilled within these "mature" minds the concept that there are no new ways of looking at things. Thus all original thinking has been stifled.

More than two thousand years ago, Aesop wrote about the oak and the willow. A storm shattered the sturdy, mature, rigid oak — whereas the flexible young willow was as good as ever after the wind had subsided.

Many authors tell us how to be mature emotionally. I do not want my patients to become mature emotionally, but to become less rigid in their feeling habits. I help them to learn better control of their emotions by achieving more flexible thought patterns. My honest belief is that unhappy emotional tension is due to a deprivation of understanding rather than to a lack of maturity.

In Dickens' Christmas Carol, Old Scrooge was so mature mentally and emotionally that he seemed unable to enjoy the childlike warmth and friendliness of the season — calling it "Humbug!" However he was still growing spiritually — or else he could not have changed his attitude as he did toward the end of the delightful story.

Very few people even pretend to have attained spiritual maturity. In Henley's poem *Invictus*, it is stated, "I am the master of my fate: I am the captain of my soul". But most religious people continue to depend upon higher powers for guidance. In fact Christians are apt to believe: "Except ye be as little children ye shall in no wise enter into the kingdom of heaven!"

If religion, love, and maturity are not enough, what do we lack? The answer is — "UNDERSTANDING!" You do not understand your child and your child does not understand you.

Any parent, teacher, clergyman, relative, or neighbor can tell you how a child acts, talks, or seems to be. What these people do not know is how they seem to the child.

To help the child we must know all about HIS WORLD. Child guidance experts have special methods for discovering the child's conscious and unconscious attitude toward all the people in his world. Then (through the help of his parents and teachers) we try to make a better world for him. If we find that he has a distorted mental vision of the world, we personally correct this by showing him that it is better than it has seemed to him.

Perhaps your child does not need special guidance. But if you are worried about him, do not depend upon the old idea that he is just going through a "phase" which he will soon "outgrow!"

RICHARD H. PRICE, M.D.

DIABETES

We will soon observe Diabetes Week. This time is designated each year as a week in which we should be unusually vigorous in our attempt to discover all early cases of diabetes as yet undetected.

Elsewhere in this issue of the Journal is an article by a Philadelphian on diabetes. While living and practicing out of state, this man is far from being unknown in Delaware. For years he has been consultant to one of our Wilmington hospitals and is held in high esteem by many of our colleagues who know him well.

Dr. Sindoni recently has published the second edition of his book "The Diabetic's Handbook". The value of this book is indicated by the number of nationally recognized authorities who have contributed to it in one way or another. This book is written for the layman and it seems to us that it might well be used to advantage in the coming diabetic detection campaign.

GALLEY: PROOF OR SLAVE?

In 1959 the average physician is more likely to write a scientific paper at some time in his career than was his counterpart of fifty years ago. Because of this, the average physician should have some knowledge of the publishing business.

Once an article has been accepted for publication, it is the duty of the editor to read it carefully, to correct any obvious errors of grammer, to change minor style variations to conform to the style of the *Journal*, and, when necessary, to delete redundant material. The editor under no circumstances has the right to change the meaning of any statement of the author. Most authors, as full-time physicians and part-time writers, appreciate this service.

On the other hand the author has a responsibility to the *Journal* and its representative, the editor. The manuscript should be legible, preferably typed with double spacing and ample margins. It should be submitted *exactly as the author wishes it to appear.* The editor will make no changes, other than those noted above, without first consulting the author.

Submission of galley proof to the author is a courtesy extended, time permitting, to give him an opportunity to double-check the editor that his article has been printed as it appears; it is *not* an opportunity to rewrite the article.

The cooperation of interested physicians in referring laperotomy-proven cases in connection with an investigation of the role of the adrenal gland in the Stein-Leventhal Syndrome is being solicited by the National Institutes of Health at the Clinical Center, Bethesda, Maryland. Referral letters or phone calls will receive prompt attention and should include detailed medical information about the patient. Please contact: J. E. Rall, M.D., Chief, Clinical Endocrinology Branch, National Institute of Arthritis and Metabolic Diseases, Bethesda 14, Maryland. Telephone Oliver 6-4000, extension 4181.

DIAGNOSIS and

DIFFERENTIAL DIAGNOSIS of ANEMIA*

● **Anemia should always be regarded as a danger signal demanding careful reevaluation of the patient's general condition. It is a symptom which should never be accepted as a diagnosis. The author presents Part II, of his comprehensive outline on the subject.**

ANDREY GEORGIEFF, M.D.**

TABLE I

CAUSES OF ANEMIA

(Etiologic Classification of Anemia)

I. Anemias due to increased loss of red blood cells

a. Acute loss of blood.
b. Chronic loss of blood. (See Table II)

II. Extracorpuscular causes

1. Chemical agents and drugs:
   a. Related to size of dose: benzene, acetanilid, lead, naphthalene, aniline, phenacetin, arsine, etc.
   b. Depending on hypersensitivity of the patient's red blood cells: sulfonamides, quinine, pamaquine, primaquine, benzedrine, etc.
2. Infectious agents:
   a. Septicemia
   b. Parasites, malaria, etc.
3. Animal and vegetable poisons: snake venoms, fava bean, castor oil bean, mushrooms.
4. Burns

*Second part of article, "Anemia," first appearing in the November, 1958 issue of the JOURNAL.
**Chief Resident, St. Francis Hospital, Wilmington.

5. Liver disease
6. Uremia
7. Hypersplenism
   Classification of hypersplenism:
   Primary:
   Acquired hemolytic Anemia (some cases)
   Idiopathic Thrombocytopenic Purpura
   Idiopathic Splenic Neutropenia Pancutopenic "Hypersplenism"
   Idiopathic Splenic Neutropenia
   Secondary:
   Due to Sequestration of Erythrocytes
   Congenital or Acquired Spherocytosis
   Splenomegalic "Hemoglyobinopathies"
   Portal Hypertension
   Other Intrasplenic Stasis
   Due to Allergic Influences
   Associated with Inflammatory States
   Associated with Malignant Diseases (especially Lymphomas and Leukemias)
8. Anemias due to immune body reaction:
   a. Virus infections: rubella, varicella, Infectious mononucleosis, atypical pneumonia
   b. Isoagglutinins anti-A, anti-B (transfusion reaction)
   c. Isoagglutinins anti-Rh, anti-Hr, Kell, Duffy, etc.
   (erythroblastosis fetalis, intra-group transfusion reactions)
   d. Paroxysmal cold hemoglobinuria
   e. Chronic infections (especially granulomatous infections, as tuberculosis, brucellosis, sarcoidosis, histoplasmosis, malaria), leukemia, lymphoma, carcinoma, liver disease, collagen disease, mylofibrosis, sarcoid, ovarian tumors, Hodgkin's Disease. Immune body may or may not be demonstrated in the diseases listed in "e."
   f. Congestive splenomegaly, due to any condition producing elevation of pressure in the portal vein system
   g. Infiltrative splenomegaly, especially diseases like Gaucher's disease
   h. Collagen diseases.
   i. Splenic neoplasms and cysts
9. Idiopathic acquired anemias (No demonstrable antibodies or primary disease)

B. *Intracorpuscular defects*

1. Hereditary spherocytosis (also called congenital hemolytic anemia.)
1. Hereditary nonspherocytic hemolytic anemia
3. Hereditary leptocytosis (also called thalassemia.)
4. Sickle-cell anemia
5. Microdrepanocytic disease
6. Other hereditary hemoglobinopathies (C, D, E, G, H, I, J, K, L, M, N, O, P, Q and Bart's)
7. Paroxysmal nocturnal hemoglobinuria
8. Hereditary elliptocytosis (ovalocytosis)

III. Anemias dues to decreased rate of cell formation

These anemias may be caused by inhibition of the rate of cell formation by the bone marrow or by replacement of the bone marrow by other tissues.

A. Inhibition (depression) of the rate of red blood cell formation (inhibition of bone marrow activity):

1. Chronic infections
2. Chronic diseases
3. Chemical agents
4. Physical agents
5. Uremia
6. Diffuse carcinomatosis

B. Mechanical interference with blood formation in the bone marrow (Mechanical displacement of the bone marrow; mechanical replacement of the bone marrow). Also called myelophthisic anemia.

1. Leukemia
2. Hodgkin's disease
3. Myelofibrosis
4. Malignancy with metastases to the bone marrow
5. Multiple myeloma
6. Marble bone disease and various other congenital bone diseases are less common causes.

C. Decreased formation of red blood cells due to deficiency of substances necessary for their production.

1. Deficiency of Vitamin B_{12}
2. Deficiency of folic acid
3. Deficiency of iron
4. Deficiency of protein
5. Possible deficiency of Vitamin C may cause anemia.
6. Endocrine deficiency: myxedema, adrenal insufficiency and pituitary insufficiency
7. Liver disease

TABLE II

CLASSIFICATION OF HEMORRHAGE

I. Vascular abnormalities

A. Traumatic injury of vessels, peptic ulcer, esophageal varices, Carcinoma of the G.I. tract, bleeding from female gynecologic organs.

B. Hereditary hemorrhagic telangiectsia

C. Nonthrombocytopenic purpuras.

1. Allergic purpura
2. von Willebrand's disease
3. Hereditary familial purpura simplex
4. Symptomatic: infections, chemicals, animal agents, scurvy, certain chronic diseases
5. Miscellaneous: mechanical purpura, orthostatic purpura, purpura Fulminans

II. Extravascular abnormalities

A. Atrophy of subcutaneous tissues (purpura senilis, purpura cachectica)

B. Fragility and hyperlaxity of the skin (Cushing's syndrome, Ehler-Danlos syndrome, epidermolysis bullosa)

III. Intravascular abnormalities — Defect of coagulation:

Classification of the hemorrhagic disorders due to defects in coagulation.

1. Defect in Stage I — *deficient thromboplastin* formation

A. Deficiency of AHG (classical hemophilia, hemophilia A)

B. Deficiency of PTC (Christmas disease, hemophilia B)

C. Deficiency of PTA (Hemophilia C)

D. Thrombocytopenias

E. Thrombocytopathic purpuras (thrombosthenia, Glanzmann's thrombosthenia). Platelets numerically normal but morpohologically and functionally abnormal)

F. Vascular hemophilia (AHG deficiency plus an abnormality of the capillaries)

G. Circulating antithromboplastin:

1. Idiopathic
2. Associated with certain diseases, disseminated lupus, hyperglobulinemia, multiple myeloma, shock, hemophilia, pregnancy.

2. Defect in Stage II — *deficient thrombin* formation

A. Deficiency of prothrombin (Hypoprothrombinemia)

1. Hereditary (rare)
2. Acquired:
   a. Idiopathic
   b. Liver diseases
   c. Newborn
   d. Vitamin K deficiency
   e. Drugs — anticoagulants.

B. Deficiency of Proaccelerin:

1. Hereditary (Parahemophilia)
2. Acquired:
   a. Liver diseases
   b. Newborn
   c. Leukemia
   d. Pernicious anemia
   e. Purpura fulminos

C. Deficiency of Proconvertin:

1. Hereditary
2. Acquired:
   Liver diseases
   Newborn,
   Vitamin K deficiency
   Anticoagulants.

3. Defect in Stage III — *defect fibrin* formation

A. Hereditary hypo- or afibrinogenemia

B. Acquired hypofibrinogenemia:

1. Liver disease
2. Complications of pregnancy
3. Certain malignancies (prostate, stomach)
4. Certain bone marrow diseases

5. Pulmonary manipulations
6. Excessive fibrinolytic activity

TABLE III

CAUSES OF PANCYTOPENIA

A. Hypoplastic (aplastic) anemia

B. Aleukemic leukemia

C. Pernicious anemia

D. Diseases associated with bone marrow invasion (myelophthisic anemia): Metastatic carcinoma, lymphoma, multiple myeloma, myelosclerosis and fibrosis, marble bone disease.

E. Diseases involving the spleen: 1. Idiopathic, 2. tuberculosis, malaria, Kala-Azar, Sarcoidosis, collagen diseases, syphilis, pymphoma, Felty's syndrome, amyloidosis, Gaucher's disease, liver disease

TABLE IV

USEFUL TESTS IN DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS OF ANEMIA

1. Hematocrit, hemoglobin and red blood cell chamber count
2. Blood smear
3. Reticulocyte count
4. Platelet count
5. W.B.C. and differential
6. M.C.V., M.C.H., M.C.H.C.
7. Icterus index
8. Fecal urobilinogen
9. Urine Urobilinogen
10. Total serum bilirubin and Van den Bergh
11. Test for hemoglobinemia and hemoglobinuria
12. Osmotic fragility test
13. Mechanic fragility test
14. Test for survival time of red blood
15. Test for warm hemolysin
16. Test for cold hemolysin
17. Test for acid hemolysin
18. Coombs' test
19. Wasserman
20. Preparation for sickle cells
21. Hemoglobin electrophoresis
22. Coagulation time, clot retraction, prothrombin time, bleeding time, prothrombin consumption test, test for fibrinogen deficiency.
23. Serum iron content
24. Iron binding capacity of the plasma
25. B.M.R., P.B.I. and blood cholesterol.
26. Total serum protein, albumin and globulin; preferably protein electrophoretic studies.
27. Liver function tests
28. Occult blood in stools
29. G.I.T. x-ray studies
30. X-ray of chest
31. Rectal examination and sigmoidoscopy
32. Pelvic examination
33. I.V.P.
34. Test for achlorhydria of the stomach
35. X-ray of bones
36. Evaluation of adrenal function
37. Evaluation of pituitary function
38. Bone marrow biopsy
39. Siderocytic stain of blood smear and bone marrow smear
40. Heinz Body stain of blood smear
41. Test for "L.E." phenomenon
42. Capillary fragility test

1. *Hematocrit, Hemoglobin and Red Blood Cell Count.* The presence or absence of anemia can be determined from the red blood cell count, the hemoglobin, or the hematocrit. Of these procedures, the hematocrit is the most accurate as an index of anemia.

2. *Blood Smear.* Must be made directly from the finger. Blood smears should be examined in all instances of suspected Anemia, for the morphology of the cells can serve as a valuable clue to the nature of the anemia and may be used to check the calculated mean corpuscular constants (see further M.C.H., M.C.V., and M.C.H.C.) When we ask a blood smear to be made, we expect the laboratory to report about the following:

A. Size of the cells. Is there Anisocytosis, or are the cells normocytic, macrocytic or microcytic.

B. Color of the cells: Are they normochromic or hypochromic?

C. Shape of the cells: Is there poikilocytosis, spherocytosis, Target cells, ovalocytes and sickle cells?

D. Are there abnormal forms in the smear: polychromatophilia, Stippling, Howell-Jolly bodies, Cabot rings, nucleated R.B.C., parasitized R.B.C.?

Anisocytosis is a variation in size of the R.B.C. Anisocytosis is a sign of increased red cell production. The production of R.B.C. is increased in anemias, in an attempt by the bone marrow to correct the anemia.

The diseases in which there is *macrocytosis* are enumerated in Table VI

The diseases in which there may be *normochromic*, *hypochromic* or *hyperchromic* anemia are also enumerated in Table VI.

Poikilocytosis is variation in shape of the R.B.C. May be seen in any severe anemia.

Spherocytosis. Normally spherocytes are not present in the blood. Spherocytes are found in hereditary spherocytosis, but also may occur with abnormal hemoglobins (see "Hemoglobinopathies" further here)

Target cells are abnormally thin red blood cells, which show a peripheral ring of Hb., separated by a clear unstained zone from a dense central eye. Target cells are thinner than normal red blood cells and are usually larger. The Target cells are unusually resistant to hypotonic salt solution.

Normally Target cells are not present in blood smear.

Target cells are present in Thalassemia, in diseases inolving hemoglobin C, S, and E, in some pancreatic diseases, intestinal hemorrhage, in some cases of obstructive jaundice, in severe hepatitis, and following splenectomy.

Ovalocytes (Elliptocytes) are oval-shaped RBC. Normally are not present in the blood. Are present in the blood in ovolocytosis (also called elliptocytosis) which is a benign disorder that is transmitted as a Mendelian dominant characteristic. Evidence of increased blood destruction is found in the 12% of individuals with ovalocytosis (the term being used only when at least 10% of the RBC show ovalocytosis)

Sickle cells are cells with sickled form. Normally they are not present in the blood.

Polychromatophilia is a varied content of the Hb. in different rbc's. Is a sign of youth of the cell, that is polychromatophilia is a sign of increased red blood cell production.

Stippling (Basophilic Stippling) of red blood cells. Normally such cells are not present in the blood. The common causes of basophilic Stippling are: 1. lead poisoning, 2. anemias of toxic origin, 3. infections, 4. Thalassemia, a very common cause, 5. severe anemia, 6. Leukemias

Howell-Jolly Bodies of the red blood cells are retained remnants of the dissolved nucleus of the red blood cell. Normally H.-J. bodies are not present. H.-J. bodies may be seen in the red blood cells in the following: 1. Any severe anemia, 2. may be leukemia, 3. following splenectomy, 4. infants born without spleen, 5. evidence of increased red blood cell production.

Cabot's Rings are remnants of the nuclear membrane. They are a mark of abnormal maturation of the nucleus.

Cause of appearance of *nucleated* red blood cells in the blood: 1. Leukemia, 2. thrombocytopenic purpura, 3. anemia, 4. metastatic invasion of bone marrow by carcinoma.

3. *Reticulocytosis.* Normally in the blood there are 0-2% reticulocytes. The common causes of reticulocytosis are: 1. acute blood loss, 2. any hemolytic anemia. One should be suspicious as to the sole hemolytic nature of an anemia if the reticulocyte count is less than 7%. 3. During early recovery phase of Pernicious Anemia, either spontaneous or induced with Vitamin B_{12} remission. 4. During early recovery phase of iron-deficiency anemia, particularly with administration of iron. 5. Many cases of granulocytic leukemia, metastatic malignancy and multiple myeloma. 6. The majority of diseases involving abnormal hemoglobin present reticulocytosis.

In the blood smear also may be found *evidence of increased red cell production.*

Some of the signs of increased red blood cell production were mentioned above. To summarize the evidences of increased rate of erythrocyte production are:

1. Reticulocytosis
2. Polychromatophilia
3. Anisocytosis
4. Poikilocytosis (spherocytosis)
5. Nucleated red blood cells
6. Stippling
7. Thrombocytosis
8. Leukocytosis (neutrophilia)
9. Bone marrow is hyperplastic

4. *Platelet Counts* in anemia may be normal, increased or decreased, depending upon the type of anemia.

5. *White Blood Cell Count* may be normal, elevated or decreased depending upon the type of anemia.

6. *Mean Corpuscular Volume* (MCV, average erythrocyte volume), *Mean Corpuscular Hemoglobin* (MCH) average hemoglobin content of red blood cells), and *Mean Corpuscular Hemoglobin Concentration* (MCHC).

Recently, it has been popular and helpful to classify the anemias according to the size of the red blood cells and relative saturation with hemoglobin. Every blood, normal or pathologic, can be characterized according to the size and the content of its red blood cells. It is necessary to carry out only three laboratory procedures:

1. Red blood cell chamber count
2. Hemoglobin
3. Hematocrit

Using the figures obtained, it is possible to calculate the average volume of the red blood cells, the average hemoglobin content of the hemoglobin in the red blood cells and the average concentration of the hemoglobin in the red blood cells. The red blood cells can then be described as to size and amount of the hemoglobin thus:

As to average red cell volume:
Volume normal — normocytic
Volume increased — macrocytic
Volume decreased — microcytic
As to average content of hemoglobin:
Hemoglobin normal — normochromic
Hemoglobin increased — hyperchromic
Hemoglobin decreased — hypochromic

On this basis, it is obvious that there are nine theoretical types of anemia, as shown in Table V below.

TABLE V

THEORETICAL TYPES OF ANEMIAS

	Hypochromic	Normochromic	Hyperchromic
Microcytic	Microytic Hypochromic	Microcytic Normochromic	Microcytic Hyperchromic
Normocytic	Normocytic Hypochromic	Normocytic Normochromic	Normocytic Hyperchromic
Macrocytic	Macrocytic Hypochromic	Macrocytic Normochromic	Macrocytic Hyperchromic

Practically, however, the possibilities are much more limited; the normocytic normochromic, the macrocytic hyperchromic and the microcytic hypochromic are the three anemias which account for a very large proportion of anemias seen in practice. Of the normocytic anemias, the normochromic is almost the only one encounterd. This is usually due to acute blood loss uncomplicated by iron deficiency. A normocytic hypochromic anemia is occasionally seen as a result of early or slight degrees of iron deficiency and blood loss. The only common and clinic-

ally characteristic macrocytic anemia is hyperchromic. Microcytic anemia is almost exclusively of the hypochromic type. The extremely common iron deficiency anemias are of the microcytic hypochromic type.

M.C.V. is the volume of the average red blood cells of a given sample of blood. Normally it is 87 (plus or minus 5) cu. microns and red cells with such size are called *normoblasts* and the condition *normocytic.* Red cells smaller than 80 cu. microns are called *microcytes,* and their occurrence as a prominent type is referred to as *microcytosis.* Red blood cellls larger than 94 cu. microns are called *macrocytes,* and the condition of their presence is *macrocytosis.* M.C.V. is calculated from the following formula:

$$\text{M.C.V.} = \frac{\text{Hemotocrit} \times 10}{\text{Rbc. in millions}}$$

For example a given blood contains 44.6% hematocrit and 5.1 million r.b.c. Then:

$$\text{M.C.V.} = \frac{44.6 \times 10}{5.1} = \frac{446}{5.1} = 87$$

M.C.H. expresses the amount of Hb. content by weight in the average r.b.c. of the sample of blood. The normal is 29 (plus or minus 2) micro-micrograms. It is calculated from the following formula:

$$\text{M.C.H. in micro-micrograms} = \frac{\text{grams of Hb. per 100ml. blood} \times 10}{\text{Rbc in millions}}$$

Example: Hb. 15.2 gm. per 100 ml., Rbc 5.1 million. Then M.C.H. $= \frac{15.2 \times 10}{5.1} = \frac{152}{5.1}$ = 30 micromicrograms.

The same information expressed in terms of the average normal is the color index (C.I.) The C.I. $= \frac{\text{Hb (\% of normal)}}{\text{Rbc count (in \% of normal)}}$ The normal C.I. is 1.0 with a range of 0.9 -1.1.

M.C.H.C. is the Hb. concentration per volume (weight per volume) of Rbc of the sample of blood. The normal M.C.H.C. is 34 (plus or minus 2) %. It is calculated from the following formula:

$$\text{M.C.H.C.} = \frac{\text{grams Hb. per 100 ml. blood} \times 100}{\text{Hematocrit}}$$

Example: Hb. 15.2 grams, Hematocrit 44.6. Then:

$$\text{M.C.H.C.} = \frac{15.2 \times 100}{44.6} = 34\%$$

TABLE VI

MORPHOLOGIC CLASSIFICATION OF ANEMIAS

I. Normocytic normochromic anemias (M.C.V. 80-94, M.C.H. 28-32, M.C.H.C. 32-36%).

These anemias are characterized by rbc's of normal size and normal Hb. content. They may be caused by:

1. Sudden acute blood loss
2. Hemolytic anemia (the hemolytic anemias are enumerated in Table I)
3. Hypoplastic and aplastic anemia. (The causes of this anemia are given in Table I)
4. Myelophthasic anemia. These are anemias associated with bone marrow invasion by metastatic carcinomas, leukemia, lymphoma, multiple myeloma, myelosclerosis of the bone marrow, and marble bone disease.
5. Aregenerative. This is refractory, chronic marrow failure. The bone marrow may appear cellular or hypercellular, but delivery of cells from the marrow to the circulation is impaired. In such cases, corticosteroids may be helpful to overcome the malfunction of the bone marrow.
6. Anemia associated with chronic disease: renal disease, infection, malignancy, liver disease, hypothyroidism, collagen diseases, rheumatoid arthritis and rheumatic fever.
7. Associated with splenomegaly: idiopathic, tuberculosis, malaria, Kala-Azar, sarcoidosis, collagen diseases, obstruction of the splenic vein, syphilis, lymphoma, Felty's syndrome, amyloidosis, Gaucher's disease, liver disease.
8. Hydremia — not a true anemia
9. Associated with pregnancy

II. Microcytic anemias (M.C.V.< 80)

A. *Microcytic normochromic anemias* (or also called *Simple Microcytic Anemias*): M.C.V.< 80, M.C.H.< 27, M.C.H.C. >30%. These anemias are characterized by a reduction in the size of the red blood cells without a significant reduction in their Hb. content.

a. Chronic inflammatory diseases: lung abscess, empyema, bronchiectasis, subacute bacterial endocarditis, P.I.D., Chronic osteomyelitis, Tuberculosis,

brucellosis, cellulitis, chronic deep fungus infections, rheumatoid arthritis, rheumatic fever.

b. Chronic noninflammatory diseases: Plumbism, malignancy, endocrine disorders (hypoadrenalism, hypopituitarism, hereditary spherocytosis, hemoglobinopathies, renal disease.

NOTE: The anemia associated with all of the conditions listed under "A" is frequently normocytic rather than mircrocytic. Less frequently the anemia associated with diseases listed under "A" may be microcytic hypochromic because of faulty utilization of iron.

B. *Microcytic hypochromic anemias* (M.C.H.C.< 30%, M.C.H.< 27, M.C.V.< 80) These anemias are characterized by a reduction below normal in the average volume of the red blood cell, together with a marked reduction in the concentration of Hb. These anemias are due to iron deficiency, excepting Thalassemia and a few other rare conditions.

1. Iron deficiency anemia. May be due to:
   a. Chronic loss of blood (most common)
   b. Inadequate intake of iron (especially infants on milk diet, etc.)
   c. Poor absorption of iron. This is seen in malabsorption syndromes. (see Table VII about cause of malabsorption)
   d. Poor utilization of iron: chronic inflammatory diseases (listed in "A," chronic noninflammatory diseases (listed in "A"), hypothyroidism, malnutrition.
2. Thalassemia and Thalassemia Syndrome
3. Some Hemoglobinopathies (See Table I about hemoglobinopathies)

III. Macrocytic anemias: (M.C.V. >94, M.C.H. 32-50, M.C.H.C. 32-36%). These anemias are characterized by an increase in the average volume (M.C.V.) and Hb. (M.C.H.) The concentration of Hb. in the red blood cell (M.C.H.C.) remains normal. The macrocytic anemias in general are of two types: A. Megaloblastic anemia and B. Nonmegaloblastic macrocytic anemia.

A. *Megaloblastic macrocytic anemias.* (Megaloblastic erythropoiesis). The bone marrow is megaloblastic.

1. *Pernicious anemia.* Pernicious anemia is distinguished from the other megaloblastic macrocytic anemias in that achlorhydria is always present and neurologic changes may occur.
2. Malabsorption syndromes. See Table in which the malabsorption syndromes are listed.
3. Megaloblastic anemia of infancy.
4. Megaloblastic anemia with diphyllobothrium latum
5. Pellegra
6. Megaloblastic anemia of pregnancy. But the anemia may be normocytic rather than macrocytic.

B. *Nonmegaloblastic macrocytic anemia.* (Normoblastic erythropoiesis) Here the bone marrow is megaloblastic.

1. May be seen in acute posthemorrhagic anemia, hemolytic anemias, and other conditions usually with normocytic anemia when associated with intense activity of the bone marrow. This is due to entrance in the blood many young cells. Reticuloytosis from any cause may cause nonmegaloblastic macrocytic anemia.
2. Some cases of hypothyroidism (myxedema) (rare), but the anemia may be normocytic rather than macrocytic.
3. Some cases of liver disease (cirrhosis), but the anemia may be normocytic rather than macrocytic.
4. Aplastic anemia
5. Leukemia and Lymphoma
6. Scurvy, but the anemia may be normocytic rather than macrocytic. The macrocytic anemias will be discussed in more detail with P.A.

NOTE. In practice, the most common cause of "macrocytic anemia" is laboratory error, and this is most often due to errors in red cell counting.

This article will be continued in subsequent issues of the JOURNAL.

In Brief

New Book

C. A. D'Alonzo, M.D., Assistant Director of the Medical Division, E. I. du Pont de Nemours & Company, Wilmington, has written a book inspired by the Du Pont Company's success in the rehabilitation of alcoholics among its employees. *The Drinking Problem and Its Control* is an excellent guide to the control of alcoholism by individuals and organizations.

Oh?

"The area (of aging) is so vast there is enough room for glory for everybody . . . political and otherwise." . . . Senator Pat MacNamara.

Home Sweet Home

Fatal home accidents are on the increase in Delaware according to the Delaware State Board of Health. For the first nine months of 1959, there were 37 deaths from home accidents — 4 more than last year for the same period. Falls accounted for 19, fire took eleven, suffocation caused 3 and other causes killed 4. A state-wide Safety Institute was held by the Delaware Safety Council and the State Board of Health, September 25, attended by 250 representatives from business, club and civic organizations, in an effort to reduce the growing list of home casualties.

Panel

Impartial medical testimony was the subject of a panel discussion at the 19th Annual Conference of the Maryland-District of Columbia-Delaware Hospital Association held in Washington, October 26-28th. H. Thomas McGuire, M.D., President, New Castle County Medical Society, was one of the eminent inter-professional leaders comprising the group. The Honorable Emery H. Niles, Chief Judge, Supreme Bench of Baltimore, who spoke here in 1957, presided over the section meeting.

"Speak Now Or . ."

The Medical Practice Act of Delaware is under review by members of the following committee appointed by Judge Charles L. Terry, President of the Medical Council of Delaware who will act as Chairman: Attorney General Januar D. Bove, Wilmington; M. A. Tarumianz, M.D., Farnhurst; Andrew M. Gehret, M.D., Wilmington; James E. Marvil, M.D., Laurel; W. O. LaMotte, Jr., M.D., Wilmington and Eugene McNinch, M.D., Dover.

Any suggestions or complaints by members of the medical profession should be made to the Committee before the bill is presented to the Legislature in January, 1960.

New Post

Dr. Jack Sabloff who has been Director of Crippled Children's Services with the Delaware State Board of Health, is resigning to accept a post in the Bureau of Maternal-Child Health with the Pennsylvania State Department of Health as of the first of the year. Dr. Sabloff expects to handle aspects pertaining to rheumatic fever and cardiac conditions.

To Be Defined

The definition of the term *internist* was found to be an obvious requirement when the New York State Society of the American Society of Internal Medicine engaged a public relations firm to prepare a successful comprehensive program for them. The name was found to be a major obstacle to understanding and acceptance by the public. It would appear essential said the firm, that internists must define their role in medicine for the layman before an effective public relations program can be attempted.

Election Drugs

GP lists the following drugs sold in quantities during 1956: mineral oil, bulk laxatives, iodine, motion sickness preparations and ice bags. You can draw your own conclusions. Although sales in these items fell in the year following, aspirin sales have climbed steadly since 1956 and GP suggests that they were needed by the public to cure headaches caused by politicos elected in 1956.

Less Noise

The fallacy of high drug cost claims can be cleared up with authentic information. The Health News Institute states that the average patient spends less for better medical care today than he did twenty years ago. In an article on this subject, prepared by the HNI for the Memphis Medical Journal, it is pointed out that:

"Both the successes and failures of research have contributed to the increased price of new medicines. But, both the successes and failures of research have also contributed to the better health and well-being of Americans.

In balance, the cost of medicines must be weighed against our increasing life expectancy; the virtual disappearance of childhood diseases; the plummeting death rate from influenza, pneumonia and tuberculosis; and the future hope for relief from today's great killers, cancer and heart disease."

Slope Medic

A squad of skiing physicians, nurses and public health and administrative personnel will be in attendance at the 8th session of the Olympic Winter Games to be held at Squaw Valley, California. The medical division of the organization will render emergency medical care to all participants as well as making sure that the Olympic area meets the highest standards of sanitation in its food service, water supply, housing and sewage dispoal. A 28 bed emergency hospital, medical aid station — both in and outside the Valley — a pharmacy, training or physiotherapy rooms, a mobile evacuation section with a fleet of ambulances, snow vehicles, station wagons and sleds to transport patients over snow are being provided.

Via movies, the Olympic games will be featured at the National Conference on the Medical Aspects of Sports, to be held on November 30th, in Dallas, immediately preceding the American Medical Association Clinical Meeting.

LETTER TO THE EDITOR

● A plea enlisting the support of every A.M.A. component medical society in limiting federal medical care of veterans to service connected disabilities. Dr. Amos R. Koontz, a distinguished surgeon at Johns Hopkins Hospital and past president of the American Military Surgeons, has long been identified with the veteran's medical care program and is a highly respected authority in this field.

MEDICAL AND CHIRURGICAL FACULTY
OF THE STATE OF MARYLAND
1211 Cathedral Street, Baltimore 1, Maryland

A. Henry Clagett, Jr., M.D., Editor
Delaware State Medical Journal
1925 Lovering Avenue
Wilmington 6, Delaware

Dear Dr. Clagett:

The Medical and Chirurgical Faculty of the State of Maryland (Maryland State Medical Association) has, for many years, expressed concern over the inroads the Veterans Administration Hospitals are making into the realm of the private practice of medicine. In order to combat the fantastic growth of treatment of non-service connected ailments of veterans, the Faculty has passed many resolutions condemning this practice and urging that something concrete be done to curtail or stop this insidious growth.

The Faculty's House of Delegates at its 1959 Annual Meeting passed a resolution that all component medical societies of the American Medical Association be contacted and urged to support the Faculty's stand in this respect.

As a result of a letter sent to every A.M.A. component medical society, eleven answers have been received all, in the affirmative.

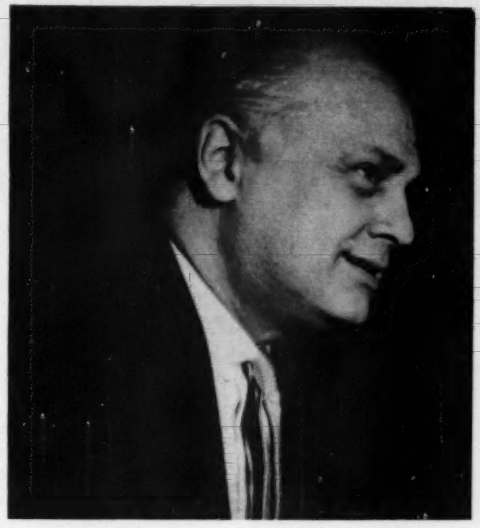
It is anticipated that other societies will also reply in the affirmative and that full support to this projected concerted action will be forthcoming from them as well.

I sincerely hope that you will see fit to publish this letter and alert your readers to the steps that are being contemplated along these lines, not the least of which is the hope that an appropriate resolution will be introduced in the A.M.A.'s House of Delegates at its clinical session in Dallas in December.

Sincerely,

AMOS R. KOONTZ, M.D., Chairman
Committee on Veterans' Medical Care

Contributors Column



ANTHONY M. SINDONI, JR., M.D.

Anthony M. Sindoni, Jr., M.D., Medical Director of the Sindoni Foundation and Clinic, Philadelphia, is Chief of the Department of Metabolism at the Philadelphia General Hospital and St. Joseph's Hospital. He is also Chief Consultant to the Departent of Metabolism at St. Francis Hospital, Wilmington.

Dr. O. N. Stern, a native Wilmingtonian, received his M.D. at the University of Pennsylvania, interned at the Delaware Hospital, Wilmington and completed his residencies at the Baltimore City Hospital and the Pennsylvania Hospital. He is attending physician to Delaware Hospital and consultant to Memorial Hospital.

Dr. Ignacio Chavez, Professor at the National University of Mexico and member of the National College, Mexico, D.F., is also Director, National Institute of Cardiology.

Dr. H. Keith Fischer is a Pennsylvanian by birth. He is Associate Professor of Psychiatry at Temple University where he received his medical education and his M.S. in Psychiatry. Dr. Fischer is Consultant to the U.S. Naval Hospital and the Lutheran Home for the Aged.

Dr. Laurence L. Fitchett received his M.D. at the University of Wisconsin Medical School and is in general practice in Milford, Delaware. He is a Member of the American Academy of General Practice and is a past president of the Medical Society of Delaware.

Dr. Andrey Georgieff, chief resident at St. Francis Hospital, Wilmington, is a graduate of the University of Sofia Medical School, Bulgaria and served his internship in Good Samaritan Hospital, Portland, Oregon.

Dr. Richard H. Price, graduate of the College of Physicians & Surgeons, Boston, and the Washington School of Psychiatry, received his first training in child guidance in the out-patient section of the Boston Pschopathic Hospital. Formerly with the National Institutes of Health, Dr. Price came to Wilmington as Chief of Psychiatry and Neurology at the VA Hospital. He has specialized in child guidance in private practice since 1956 and has published several articles on that subject.

The JOURNAL regrets the omission of the following credit lines for the insert *Parliamentary Procedure* which appeared in the October issue:

From an Exhibit, *What Do I Want to Do in A Medical Meeting?* G. F. Schmitt, M.D., F.A.C.P., Registered Parliamentarian, 30 S. E. 8th Street, Miami, Florida.

Books

PERIODICAL HOLDINGS OF THE LIBRARY OF THE DELAWARE ACADEMY OF MEDICINE

Abstracts of Soviet Medicine	Vol. 1-
Acta—Unio Internationalis Contra Cancrum	Vol. 8-
Acta Allergologica	Vol. 13-
Acta Chirurgica Scandinavica	Vol. 113-
Acta Endocrinologica	Vol. 21-
Acta Haematologica	Vol. 19-
Acta Medica Scandinavica	Vol. 142-
Acta Radiologica	Vol. 37-
Acta Rheumatologica Scandinavica	Vol. 5-
American Heart Journal	Vol. 1-
American Journal of Cancer	Vol. 15-40
American Journal of Cardiology	Vol. 1-
American Journal of Clinical Nutrition	Vol. 1-
American Journal of Diseases of Child. *See Journal of Diseases of Children*	
American Journal of the Medical Sciences	Vol. 150-
American Journal of Medicine	Vol. 2-
*American Journal of Mental Deficiency	Vol. 57-
American Journal of Obstetrics and Gynecology	Vol. 7-
*American Journal of Ophthalmology	Vol. 2-
American Journal of Orthodontics and Oral Surgery	Vol. 25-36
American Journal of Physiology	Vol. 172-
*American Journal of Psychiatry	Vol. 91-99, 113-
*American Journal of Public Health	Vol. 17-
American Journal of Roentgenology	Vol. 2-
American Journal of Surgery	Vol. 2-
American Practitioner and Digest of Treatment	Vol. 1-
*American Review of Tuberculosis	Vol. 43-
Annales Chirurgiae et Gynaecologiae Fenniae	Vol. 44-
Annales Medicinae Internae Fenniae	Vol. 44-
Annals of Biochemistry and Experimental Medicine	Vol. 17-
Annals of Dentistry	Vol. 5-10
Annals of Internal Medicine	Vol. 1-
*Annals of the New York Academy of Sciences	
Annals of Otology, Rhinology, and Laryngology	Vol. 35-
Annals of Surgery	Vol. 1-
Annals of Western Medicine and Surgery	Vol. 1-6
*Annual Review of Medicine	Vol. 2-
Antibiotics and Chemotherapy	Vol. 3-
Archives of Dermatology and Syphilology	Vol. 19-
Archives of General Psychiatry	Vol. 1-
Archives of Industrial Health	Vol. 1-
Archives of Industrial Hygiene and Occupational Medicine. *See Archives of Industrial Health*	
Archives of Internal Medicine	Vol. 37-
Archives of Neurology and Psychiatry	Vol. 23-
Archives of Ophthalmology	Vol. 3-
Archives of Otolaryngology	Vol. 1-
Archives of Pathology and Laboratory Medicine	Vol. 1-
Archives of Surgery	Vol. 1-
Arizona Medicine	Vol. 1-
Australian Journal of Experimental Biology and Medical Science	Vol. 24-
Biochemistry	Vol. 21-
Biophysics	Vol. 2-
Blood	Vol. 1-
British Dental Journal	Vol. 56-
Brain	Vol. 81-
British Heart Journal	Vol. 12-
British Journal of Cancer	Vol. 6-
British Journal of Experimental Pathology	Vol. 33-
British Journal of Ophthalmology	Vol. 18-
*British Journal of Physical Medicine	Vol. 9-
British Journal of Preventive and Social Medicine	Vol. 1-
British Journal of Radiology	Vol. 25-
British Journal of Surgery	Vol. 18-
British Medical Journal	1937-
Bulletin of Experimental	

Biology and Medicine	Vol. 41-
Bulletin of the History of Medicine	Vol. 32-
Bulletin of the Hospital for Joint Diseases	Vol. 12-
Bulletin of the Hospital for Special Surgery	Vol. 1-
*Bulletin of the Johns Hopkins Hospital	Vol. 54-
Bulletin of the Margaret Hague Maternity Hospital	Vol. 1-10
Bulletin of the Medical Library Association	Vol. 20-
Bulletin of the New York Academy of Medicine	Vol. 14-
Bulletin of the St. Francis Hospital and Sanatorium	Vol. 8-
Bulletin of the Sloane Hospital for Women	Vol. 2-
Bulletin of the Staff of Touro Infirmary	Vol. 3-
Bulletin of University of Miami School of Medicine and Jackson Memorial Hospital	Vol. 8-
Calcutta Medical Journal	Vol. 40-
California Medicine	Vol. 32-
California and Western Medicine	*SEE California Medicine*
Canadian Medical Association Journal	Vol. 16-
Canadian Public Health Journal	Vol. 27-25
Cancer	Vol. 1-
Cancer Current Literature	Vol. 1-6
Cancer Research	Vol. 12-
Central African Journal of Medicine	Vol. 4-
Chinese Medical Journal	Vol. 65-
Ciba Clinical Symposia	Vol. 1-
Circulation	Vol. 1-
Clinical Medicine	1956-
Clinical Pharmacology and Therapeutics	Vol. 1-
Clinical Review and Research Notes	Vol. 1-
Collected Reprints of the American Cancer Society	1946-
Collected Reprints of the Grantees of the National Foundation for Infantile Paralysis	Vol. 1-
Collective Papers of the Mayo Clinic and Mayo Foundation	1905-54
Connecticut State Medical Journal	Vol. 2-
Current List of Medical Literature	Vol. 19-
Current Therapeutic Research	Vol. 1-
Danish Medical Bulletin	Vol. 3-
Delaware Pharmacist	Vol. 2-
Delaware State Medical Journal	Vol. 1-
Dental Clinics of North America	1957-
Dental Cosmos	Vol. 55-75
Dental Digest	Vol. 33-37
Dental Items of Interest	Vol. 36-63
Dental Radiography and Photography	Vol. 25-
Dental Record	Vol. 63-65
*Diabetes	Vol. 1-
Diseases of the Chest	Vol. 9-
Diseases of the Colon and Rectum	Vol. 1-
Endocrinology	Vol. 20-32
Gastroenterology	Vol. 33-
GP	Vol. 1-
Geriatrics	Vol. 8-
German Medical Monthly	Vol. 1-
Grace Hospital Bulletin	Vol. 25-
Harper Hospital Bulletin	Vol. 2-
Hawaiian Medical Journal	Vol. 1-
Hebrew Medical Journal	1943-
Henry Ford Hospital Medical Bulletin	Vol. 1-
Hospitals	Vol. 33-
Illinois Medical Journal	Vol. 63-
Industrial Medicine and Surgery	Vol. 2-
Journal of the Albert Einstein Medical Center	Vol. 1-
Journal of Allergy	Vol. 2-
Journal of the American College of Dentists	Vol. 1-19
Journal of the American Dental Association	Vol. 7-
Journal of the American Medical Association	Vol. 45-
Journal of the American Medical Women's Association	Vol. 1-
Journal of the Arkansas Medical Society	Vol. 38-

Journal of Bone and Joint Surgery Vol. 27-
Journal of Chronic Diseases Vol. 7-
*Journal of Clinical Endocrinology and Metabolism Vol. 2-
Journal of Clinical Investigation Vol. 32-
Journal of Clinical Nutrition
SEE American Journal of Clinical Nutrition
Journal of Dental Research Vol. 20-
Journal of Diseases of Children Vol. 27-
Journal of Experimental Medicine Vol. 59-
Journal of Industrial Hygiene and Toxicology Vol. 16-24
Journal of the International College of Surgeons Vol. 12-
Journal of the Florida Medical Association Vol. 28-
Journal of Immunology Vol. 20-29
Journal of the Indiana State Medical Association Vol. 35-
Journal of the Iowa State Medical Society Vol. 32-
Journal of the Kansas Medical Society Vol. 43-
Journal of the Kentucky State Medical Association Vol. 40-
Journal of Laboratory and Clinical Medicine Vol. 8-
Journal of Louisiana State Medical Society Vol. 95-
Journal of the Maine Medical Association Vol. 34-
Journal of the Medical Association of Alabama Vol. 12-
Journal of Medical Education Vol. 21-
Journal of the Medical Society of New Jersey Vol. 40-
Journal of the Michigan State Medical Society Vol. 42-
Journal of Microbiology, Epidemiology and Immuno-Biology Vol. 28-
Journal of the National Cancer Institute Vol. 13-
Journal of Neurology, Neurosurgery, and Psychiatry Vol. 14-
Journal of Obstetrics and Gynecology of the British Empire Vol. 63-
Journal of the Oklahoma State Medical Association Vol. 36-
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MAJOR MEDICAL MEETINGS IN DELAWARE

Standing Schedule

Beebe Hospital	General Staff	2nd Friday	Monthly
Delaware Hospital	General Staff	2nd Tuesday	Feb., May, Sept., Dec.
Kent General Hospital	General Staff	3rd Tuesday	Monthly
Memorial Hospital (Wilmington)	General Staff	2nd Tuesday	Jan., March, June, Oct.
Milford Memorial Hospital	General Staff	2nd and last Tuesdays	Monthly
Nanticoke Memorial Hospital	General Staff	1st Thursday	Monthly
St. Francis Hospital	General Staff	4th Tuesday 1st Tuesday	March, May, Oct. December
Wilmington General Hospital	General Staff	4th Tuesday	Jan., April, Sept., Nov.

Kent County Medical Society	Monthly Meeting	3rd Tuesday	September - June
New Castle County Medical Society	Monthly Meeting	3rd Tuesday	September - June
Sussex County Medical Society	Monthly Meeting	2nd Thursday	September - June

Delaware Academy of General Practice	Monthly Meeting	1st Tuesday	September - June
Delaware Pathology Society	Weekly Meeting	Each Friday	

Special Schedule

Delaware Academy of General Practice	Annual Meeting	Academy of Medicine	December 5, 1959
Medical Society of Delaware	Annual Meeting	Rehoboth, Delaware	September, 1960

LECTURE COURSE

Subject: Basic Electrocardiography

Schedule: Part I

Time — Every Thursday afternoon 4-5 p.m.
Dates: From October 29, 1959 through February 25, 1960

Place: Memorial Hospital, Wilmington

Schedule: Part II

Time — Same as for Part I
Dates: March 3rd through March 31st, 1960
Arrangements must be made for Part II only.

For full details regarding this series write to the Director of Medical Education, Memorial Hospital, Wilmington

TWO-WAY RADIO CONFERENCES FOR THE COMING MONTH

Sponsorship: *Medical Society of Delaware, Pennsylvania Hospital, Smith Kline & French Laboratories.*

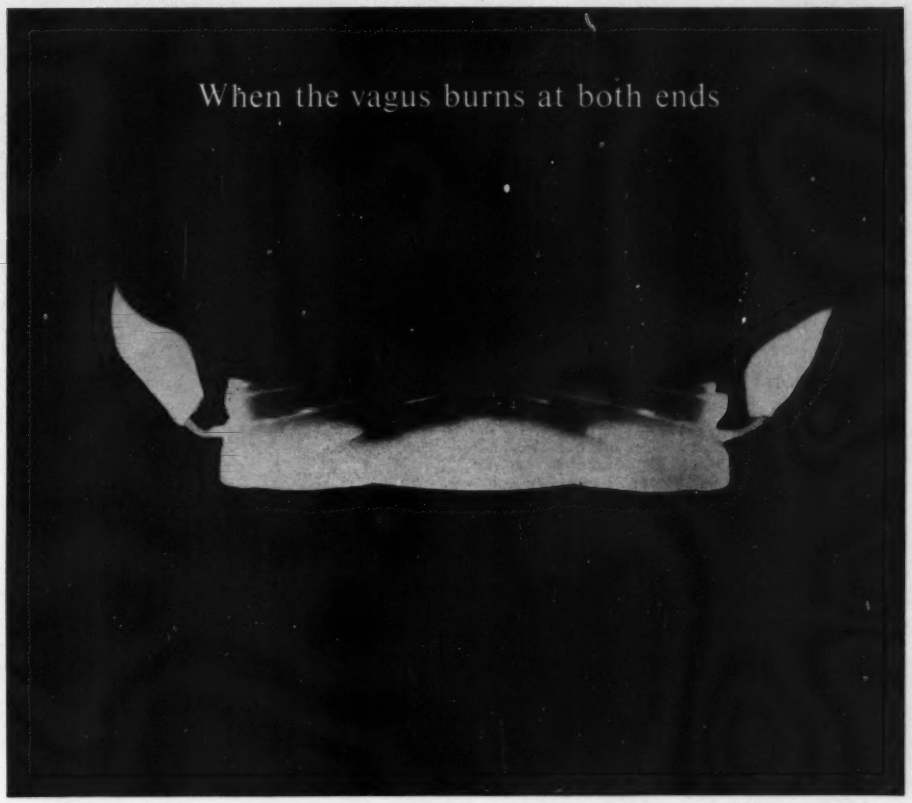
Date *Topic and Faculty*

Nov. 24—"Proper Use of Anticoagulants." Joseph B. Vander Veer, M.D., Cardiologist to Pennsylvania Hospital.

Dec. 1—"Diabetic Acidosis." Garfield G. Duncan, M.D., Director, Division of Medicine, Pennsylvania Hospital.

Dec. 8—"Treatment of Urinary Tract Infections." Alex J. Michie, M.D., Associate Urologist to Pennsylvania Hospital; Assoc. Surgeon, Div. of Urology, Children's Hospital; Ass't. Prof. of Ped. Surg., University of Penna. School of Medicine.

Dec. 15—"Dysfunctional Uterine Bleeding." S. Leon Israel, M.D., Obstetrician and Gynecologist to Pennsylvania Hospital.



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Pro-Banthine with Dartal contains two agents required for such dual therapy: Pro-Banthine to control and curtail the flare-ups of spasm, excess acidity and excess motility, and Dartal to smother simmering anxiety and tension.

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NOW... SAFER, EFFECTIVE TRANQUILIZER THERAPY

greater specificity of tranquilizing action —divorced from such "diffuse" effects as anti-emetic action —explains why

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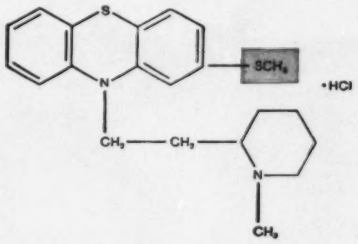
THIORIDAZINE HCl

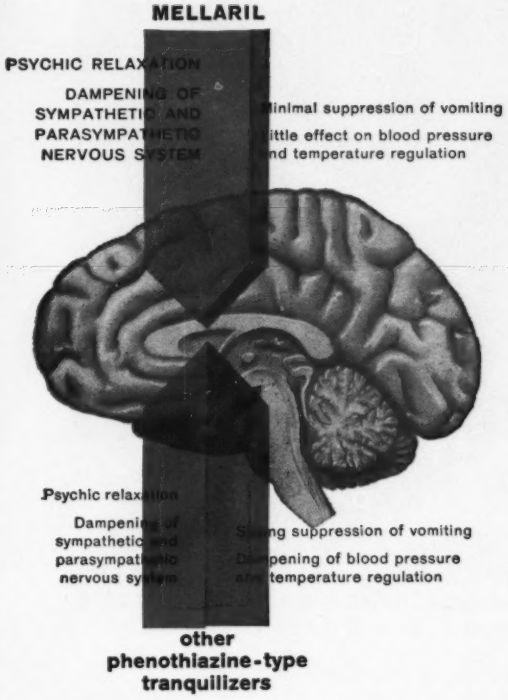
is virtually free of such toxic effects as · jaundice · Parkinsonism · blood dyscrasia

Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines. ... This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."*

a new advance in tranquilization:
greater specificity of tranquilizing action results in fewer side effects



The presence of a thiomethyl radical ($S\text{-}CH_3$) is unique in Mellaril and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:



1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.

2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.

3 A notable absence of extrapyramidal stimulation.

4 Lack of impairment of patient's normal drive and energy.

5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
ADULTS: Mental and Emotional Disturbances:		
MILD—where anxiety, apprehension and tension are present	10 mg. t.i.d.	20-60 mg.
MODERATE—where agitation exists in psychoneuroses, alcoholism, intractable pain, senility, etc.	25 mg. t.i.d.	50-200 mg.
SEVERE—in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.:		
Ambulatory	100 mg. t.i.d.	200-400 mg.
Hospitalized	100 mg. t.i.d.	200-800 mg.
CHILDREN: BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

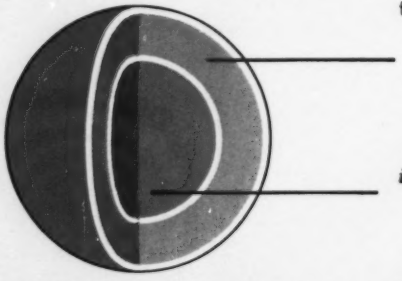
MELLARIL Tablets, 10 mg., 25 mg., 100 mg.

*Ostfeld, A. M.: Scientific Exhibit, American Academy of General Practice, San Francisco, April 6-9, 1959

SANDOZ

the complaint: "nervous indigestion"

the diagnosis: any one of several nonspecific gastrointestinal disorders requiring relief of symptoms by sedative-antispasmodic action with concomitant digestive enzyme therapy. **the prescription:** a new formulation, incorporating in a single tablet the actions of Donnatal and Entozyme. **the dosage:** two tablets three times a day, or as indicated.



the formula: *in the gastric-soluble outer layer:*

Hyoscyamine sulfate	0.0518 mg.
Atropine sulfate	0.0097 mg.
Hyoscine hydrobromide	0.0033 mg.
Phenobarbital (1/8 gr.)	8.1 mg.
Pepsin, N.F.	150 mg.

in the enteric-coated core:

Pancreatin, N.F.	300 mg.
Bile salts	150 mg.

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Synonyms for Pain Relief...

'TABLOID'
'EMPIRIN' COMPOUND®

Acetophenetidin ..... gr. 2½
Acetylsalicylic Acid .... gr. 3½
Caffeine ..... gr. ½

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'EMPIRIN' COMPOUND® WITH CODEINE PHOSPHATE*

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Acetophenetidin ..... gr. 2½
Acetylsalicylic Acid .... gr. 3½
Caffeine ..... gr. ½
Codeine Phosphate .... gr. ½

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Acetophenetidin ..... gr. 2½
Acetylsalicylic Acid .... gr. 3½
Caffeine ..... gr. ½
Codeine Phosphate .... gr. 1

*Subject to Federal Narcotic Regulations

...providing the desired gradation of potencies for relief of varying intensities of pain

IN
simple headache
rheumatic conditions
arthralgias
myalgias
common cold
toothache
earache
dysmenorrhea
neuralgia
minor trauma
tension headache
premenstrual tension
minor surgery
post-partum pain
trauma
organic disease
neoplasm
muscle spasm
colic
migraine
musculo-skeletal pains
postdental surgery
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fractures
synovitis/bursitis

relief of pain of all degrees of severity up to that which requires morphine

AND IN
fevers
dry, unproductive coughs

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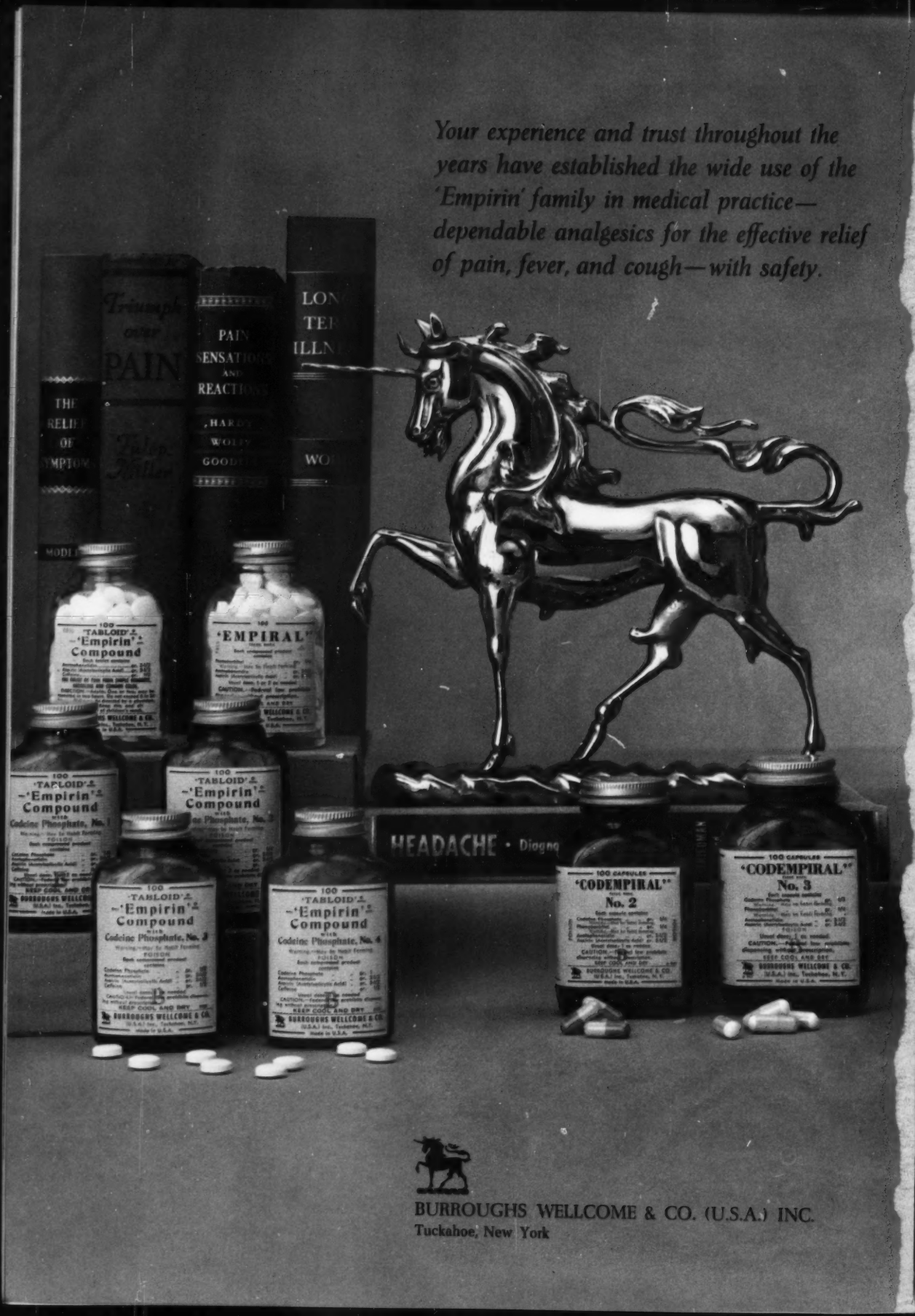
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internal and/or external attack

Whatever the bacterial infection seen in EENT, the foci respond rapidly to a suitable form of broad-spectrum ACHROMYCIN. In superficial cases, local therapy is often dramatic. In deep-seated conditions, ACHROMYCIN V capsules complement topical control for fast relief and remission.

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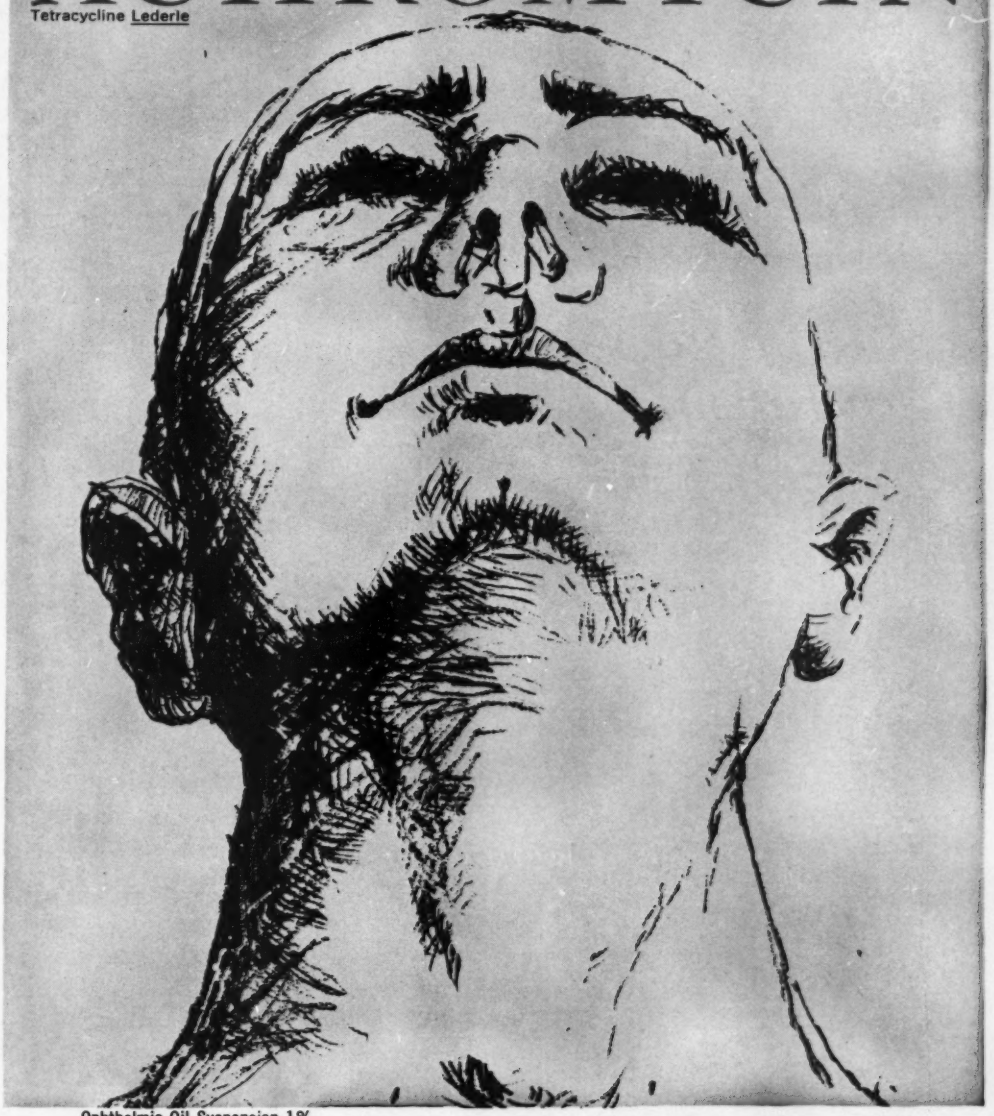

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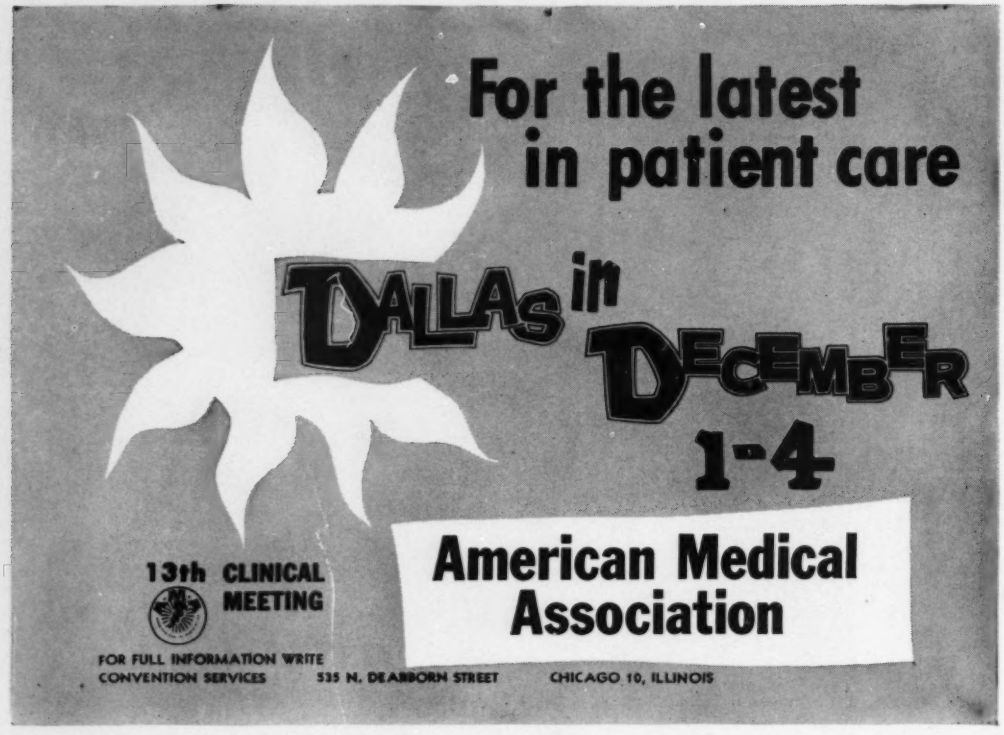

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COUGH ***promptly curbed*** by homarylamine—non-narcotic antitussive with the approximate potency of codeine.

INFECTION ***combated*** by three nonsystemic antibiotics—each active against common mouth and throat pathogens, all with relatively low sensitization potentials.

IRRITATION ***soothed*** by benzocaine—a topical anesthetic that promotes prolonged relief of inflamed or irritated tissues.

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NEW PINEAPPLE FLAVOR Overwhelmingly selected by a taste panel.
Available to your patients on your prescription only.
DOSAGE: Three to five troches daily for three to five days.
SUPPLIED: Vials of 12.

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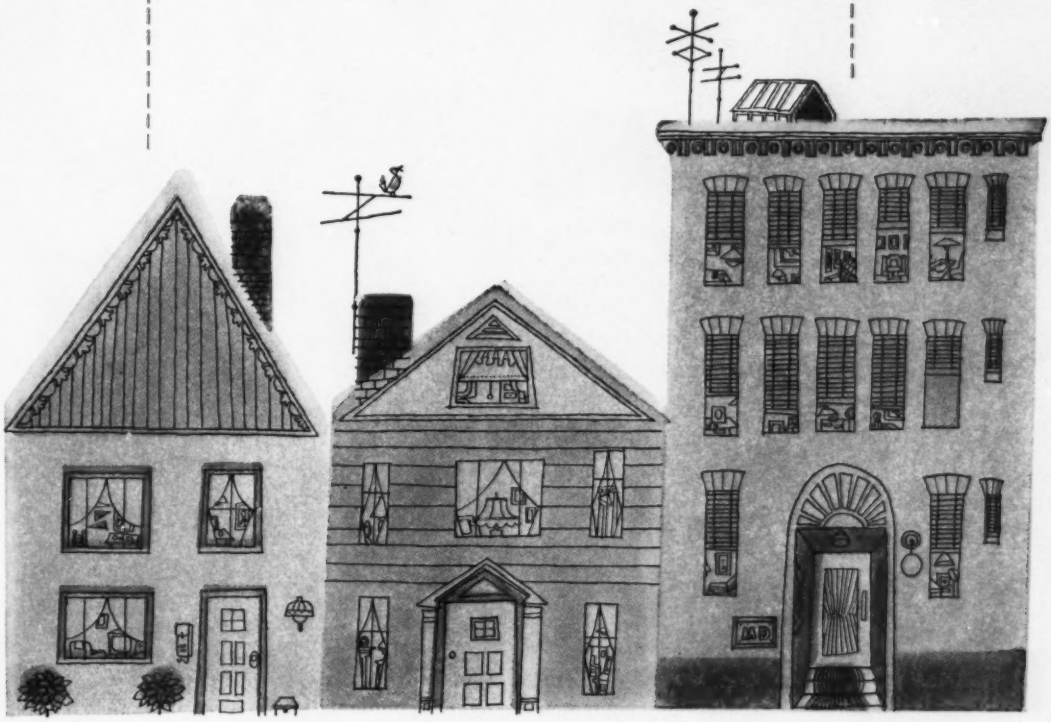
"But, Doctor, I just can't swallow a lot of tablets"

"Little mother, just **ONE**

BONADOXIN®

tablet stops morning sickness (you take it at bedtime)"



The formula tells why BONADOXIN quickly stops nausea and vomiting of pregnancy in 9 out of 10 cases.* Each tiny BONADOXIN tablet contains: Meclizine HCl (25 mg.) for antinauseant action / Pyridoxine HCl (50 mg.) for metabolic replacement

More than 60,000,000 tablets prescribed and taken. Toxicity low, tolerance excellent. In bottles of 25 and 100. Usual dose: one tablet at bedtime; severe cases may require another on arising. See PDR, p. 779.

BONADOXIN also effectively relieves nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, cerebral arteriosclerosis and motion sickness.

After Baby Comes

For infant colic, try antispasmodic BONADOXIN Drops... stop colic in 7 out of 8 cases.*

Each cc. contains:
Meclizine 8.33 mg. / Pyridoxine 16.67 mg.

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*Bibliography available on request.

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avoid the risk of insoluble, irritating aspirin particles

Chief among the drawbacks to aspirin usage is gastric intolerance. This ranges from mild upset and "heartburn" to severe hemorrhagic gastritis.[1-10] Studies performed in conjunction with gastrectomy[4, 5] and gastroscopy[2] have shown insoluble aspirin particles firmly adherent to the gastric mucosa and imbedded between rugae. Reactions varying from mild hyperemia to erosive gastritis have been reported to occur in the areas immediately surrounding these adherent particles.[2, 4, 5] This is reported to be particularly true in patients with peptic ulcer.[4]

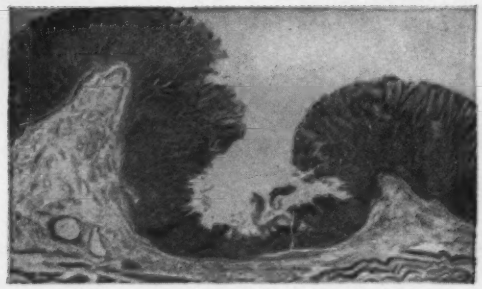
CALURIN is the freely soluble, stable calcium aspirin complex. Its high solubility forestalls gastric irritation or damage

Regular aspirin crystals 24 hours after being mixed into water.

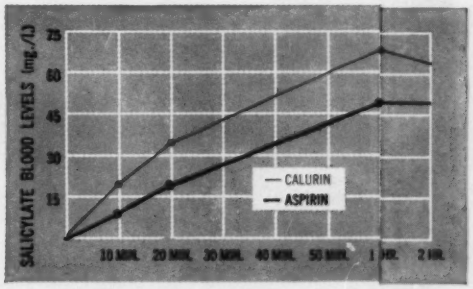
Calurin crystals in solution one minute after being mixed into water.

CALURIN*

STABLE SOLUBLE CALCIUM-ACETYLSALICYLATE-CARBAMIDE



Particle-induced ulceration — section through lesion found in gastrectomy specimen. An aspirin particle was found firmly imbedded in this undermined erosion. Such lesions may be associated with the relative insolubility of aspirin, which remains in particulate form after dispersion in gastric contents.



Calurin, being freely soluble, is promptly available for absorption into the systemic circulation. Salicylate blood levels in 12 subjects receiving both Calurin and plain aspirin were found to rise more than twice as high within ten minutes following Calurin. Also, these levels persisted higher for at least two hours.[11]

CALURIN is the aspirin of choice, especially when high-dosage, long-term therapy is indicated:

1 High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.

2 Produces high salicylate blood levels rapidly for prompt analgesic, anti-pyretic, anti-arthritic effect.

3 Sodium-free — for safer long-term therapy.

4 Flavored: can be chewed or dissolved in the mouth without water if desired — an advantage for patients requiring aspirin administration during the night and for pediatric patients.

Dosage: Each tablet of Calurin is equivalent to 300 mg. (5 gr.) of acetylsalicylic acid. For relief of pain and fever in adult patients, the usual dose of Calurin is 1 to 3 tablets every 4 hours, as needed; in arthritic states, 2 or 3 tablets 3 or 4 times daily; in rheumatic fever, 3 to 5 tablets 4 or 5 times daily. For children over 6 years, the usual dose is 1 tablet every 4 hours; for children 3 to 6 years, ½ tablet every 4 hours, as required. Not recommended for children under 3.

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*TRADEMARK

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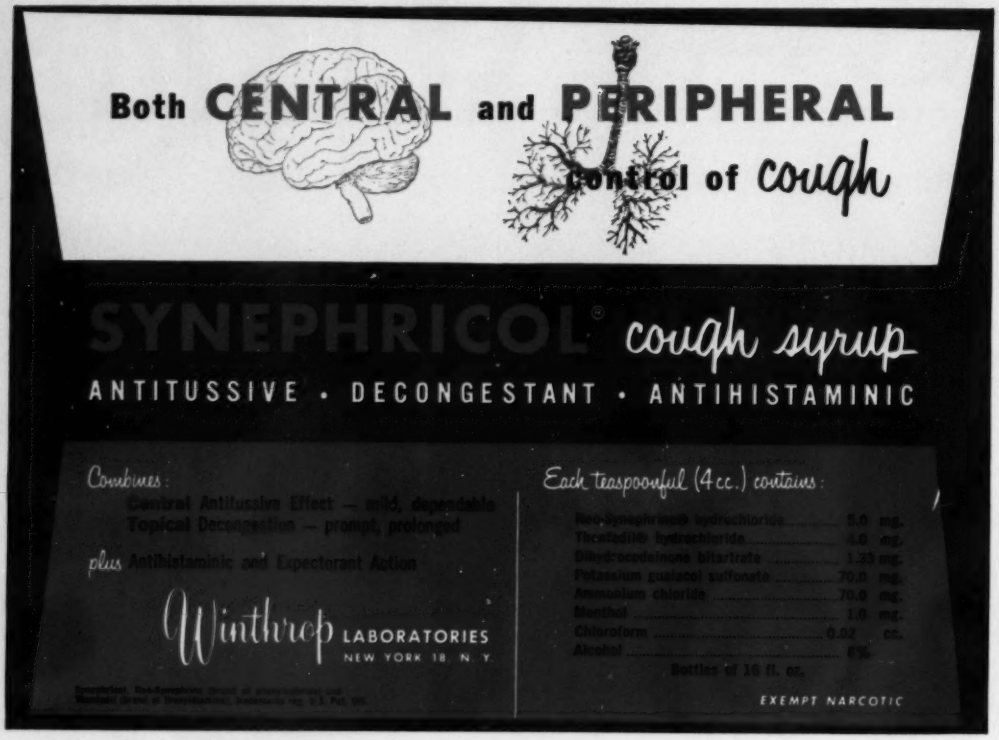

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0.5 Gm. TABLETS/NEW ACETYL PEDIATRIC SUSPENSION
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NIAMID*

reduces pain in angina pectoris

NIAMID, in intensive clinical tests, has proved to have a high degree of safety and to be a valuable adjunct in the management of the anginal syndrome. NIAMID produces striking symptomatic improvement in angina patients...

- reduces frequency of anginal episodes
- diminishes severity of attacks
- decreases nitroglycerin requirements
- renews sense of well-being

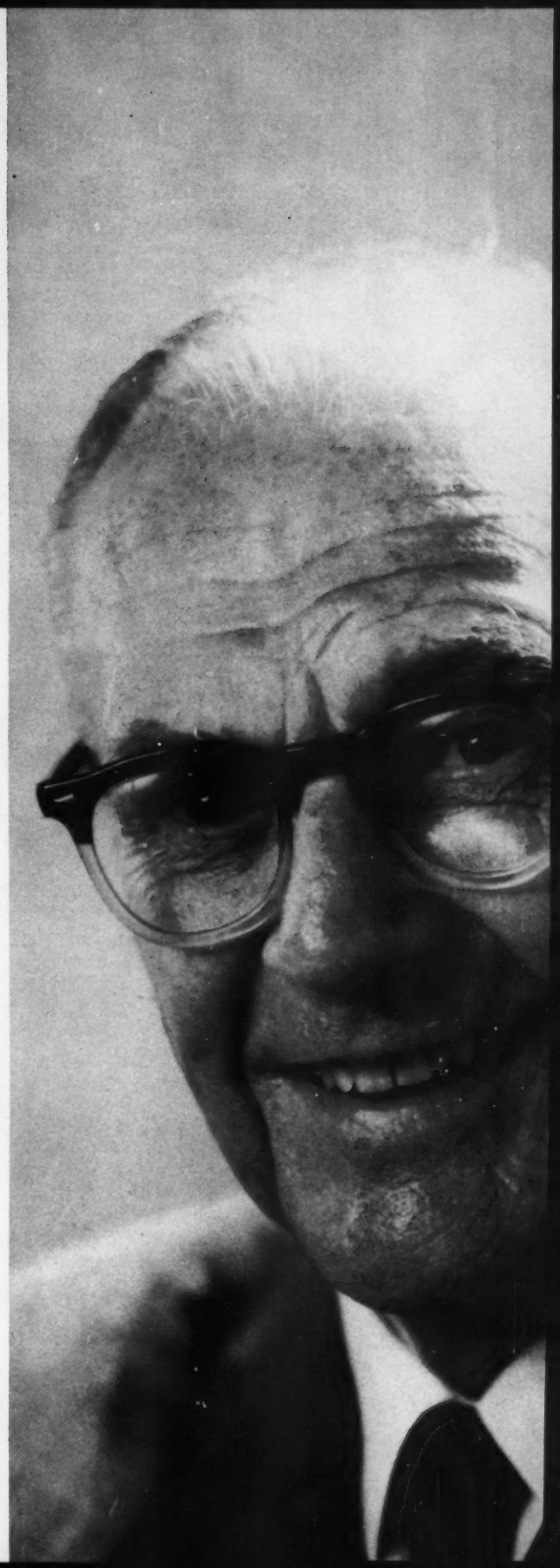
Note: Because of dramatic relief of symptoms and increased sense of well-being in anginal cases, it is advisable to caution the patient against overexertion.

DOSAGE: Start with 75 mg. of NIAMID daily in single or divided doses. After 2 weeks or more, adjust the dosage, depending upon patient response, in steps of one or one-half 25 mg. tablet. Once improvement is seen, gradually reduce dosage to the maintenance level. Many patients respond to NIAMID within a few days, others within 7 to 14 days. NIAMID is available as 25 mg. (pink) and 100 mg. (orange) scored tablets.

A Professional Information Booklet giving detailed information on NIAMID *is available on request from the Medical Department, Pfizer Laboratories, Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y.*

*Trademark for nialamide

Pfizer *Science for the world's well-being™*



immortals of chinese mythology:

Chung-li Chu'an

This powerful magician revived the souls of the dead with a wave of his fan and gained a lasting place in Taoist legend

...this pioneer corticosteroid has proved invaluable in treating *millions* of living patients

METICORTEN

METICORTEN,® brand of prednisone, 5 mg. tablets.

SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY

You will soon receive in your mail a full-color, handmade, three-dimensional figure of this Chinese Immortal, mounted and suitable for framing.

S-518

Schering

provides therapeutic levels . . . for 24 hours . . .
with low incidence of sensitivity reactions . . .
WHENEVER SULFAS ARE INDICATED

KYNEX

Sulfamethoxypyridazine Lederle
0.5 Gm. TABLETS/NEW ACETYL PEDIATRIC SUSPENSION
LEDERLE LABORATORIES, a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York

PARKE

Institutional Supplier
Of Fine Foods

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COFFEE TEAS
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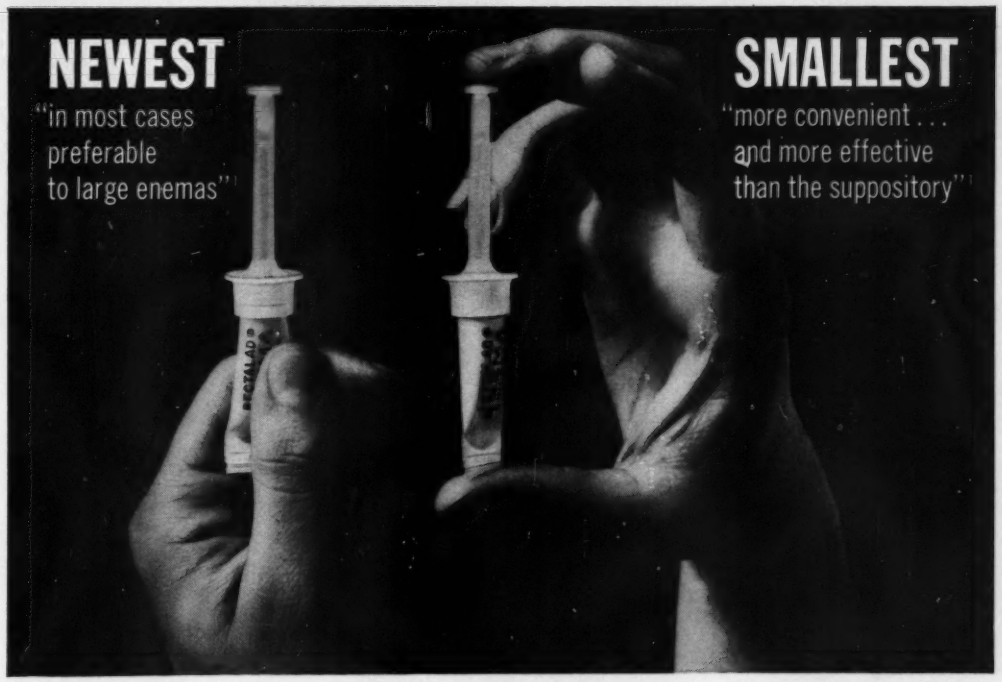
RECTALAD® MINIATURE ENEMA IN RECTALAD DISPOSABLE DISPENSER



ALLAYS FEAR AND DISCOMFORT OF CONVENTIONAL ENEMAS AND LARGE-VOLUME DISPOSABLE ENEMAS

Topical action triggers the defecatory reflex to produce natural peristalsis in the lower bowel only. Wetting agent spreads ingredients to lubricate and soften the fecal mass for easier passage. Results are rapid[2] and, in over 90% of patients, completely satisfactory.[1,3] Economical RECTALAD MINIATURE ENEMA is not absorbed, does not disturb fluid-electrolyte balance and is well tolerated by patients of all ages.

RECTALAD® MINIATURE ENEMA contains glycerin, sodium stearate, dioctyl sodium sulfosuccinate and water in a self-contained disposable unit. For your prescription or recommendation: 5 cc. adult size and 2 cc. pediatric size. Samples available on request.

References: 1. Aries, P. L.: J.A.M.A. *169*:708 (Feb. 14) 1959. 2. Personal Communication on file at Medical Department, Wampole Laboratories. 3. Reports of clinical trials by 9 physicians.

WAMPOLE LABORATORIES, STAMFORD, CONN.

RESEARCH:

key to Kent's popularity

In 1958, Kent made the greatest gain in popularity ever recorded by any filter cigarette in any year—a sales increase of 20-billion cigarettes.

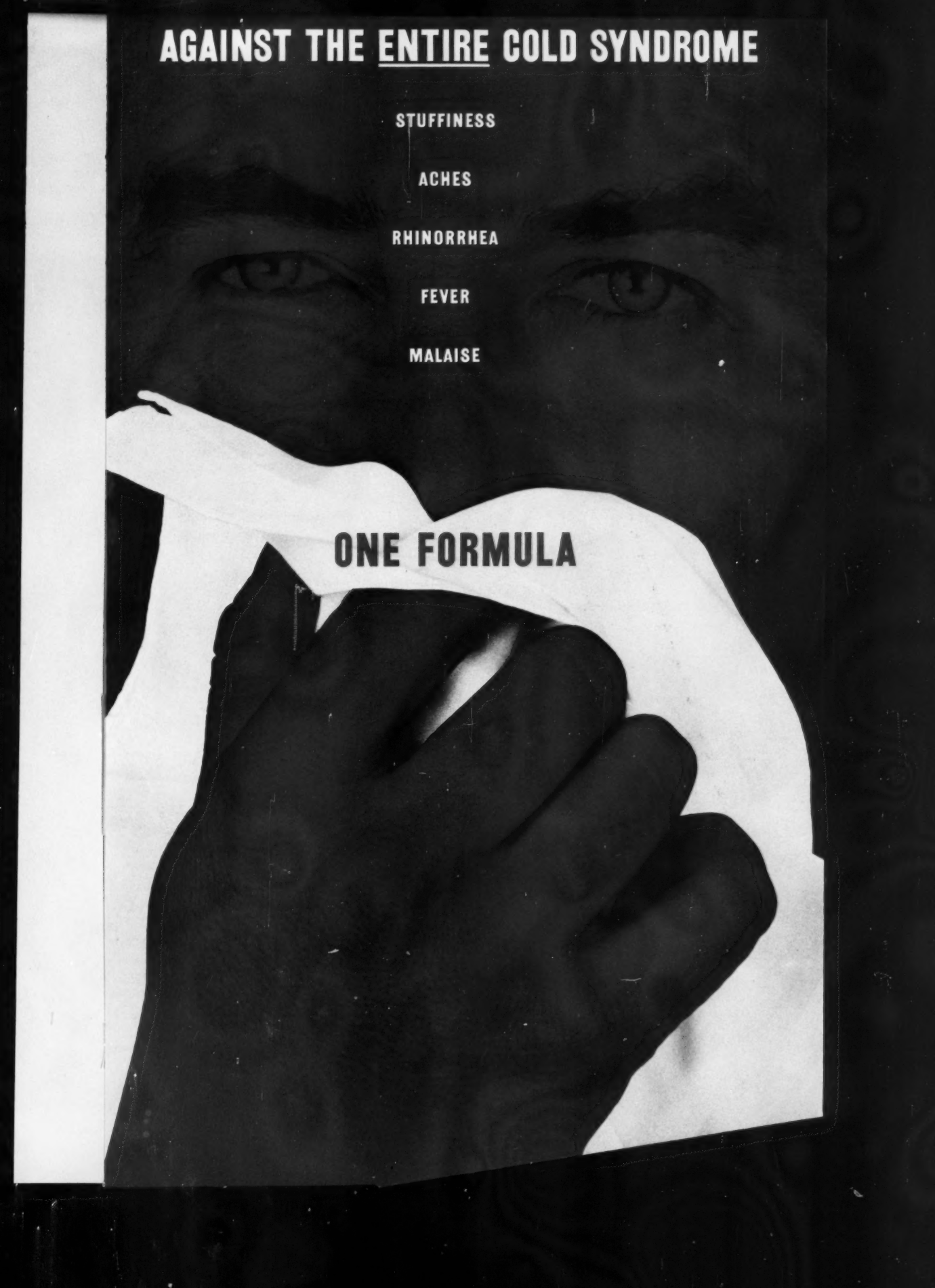
Behind this popularity is a story of months and years of research, perfecting the remarkable combination of filter action and flavor found in today's Kent cigarette. In developing Kent, Lorillard research scientists recognized that smokers wanted, on the one hand, a really satisfying taste; on the other, reduced tars and nicotine. In addition, smokers demanded a free and easy draw.

These, then, were the objectives. The first scientific breakthrough in the project was the development of the exclusive Micronite filter, patented by Lorillard. This filter was created because of newly-discovered principles in the field of filtration, which have been previously described in these pages.

Though this filter satisfied everyone on its ability to reduce tars and nicotine to the lowest level among the largest selling brands, there was still work to be done in the areas of taste and draw. After additional months of research, a new tobacco blend was developed which delivered rich taste *after* the smoke had passed through the filter. Next in the series of laboratory triumphs was a method of improving the draw to compare with the most free-drawing of all filter brands.

The rest of the Kent story is a legend in the tobacco industry. Outside, independent research studies confirmed the fact that Kent had achieved its objectives. Smokers responded. In fact, during the past year, more smokers changed to Kent than to any other cigarette in America.

A Product of P. Lorillard Company—First with the finest cigarettes—through Lorillard Research!


AGAINST THE ENTIRE COLD SYNDROME
STUFFINESS
ACHES
RHINORRHEA
FEVER
MALAISE
ONE FORMULA

NEO-SYNEPHRINE® C

COMPOUND

CONTROL OF COMMON COLD SYMPTOMS with

Neo-Synephrine Compound Cold Tablets is pharmacologically comprehensive and clinically practical...

COMPREHENSIVE because in this new preparation are rationally combined drug actions that are needed to control the common cold symptomatology "across the board"

PRACTICAL because the average patient will promptly find relief from his distress.

OLD TABLETS

For full-range symptomatic relief orally each tablet of Neo-Synephrine Compound provides:

VS. NASAL STUFFINESS, TIGHTNESS—
Neo-Synephrine hydrochloride...5 mg.
pre-eminent, orally effective decongestant

VS. ACHES, CHILLS, FEVER—
Acetaminophen (N-acetyl-*p*-aminophenol)...150 mg.
modern analgesic and antipyretic

VS. RHINORRHEA—
Thenfadil® hydrochloride ...7.5 mg.
effective, well tolerated antihistaminic

VS. LASSITUDE, MALAISE—
Caffeine...15 mg.
dependable, mild, stimulating agent

DOSAGE: *Adults*—2 tablets three times a day

Children 6 to 12 years—1 tablet three times a day

Bottles of 20 and 100 tablets

Winthrop LABORATORIES

Winthrop LABORATORIES

TO CLEAR THE AIRWAY

topically
in colds,
sinusitis
and allergic
rhinitis

NTZ®

Nasal Spray

quick
and
lasting
decongestion

Combining three effective intranasal medications, NTZ produces sustained decongestion ...aeration...sinus drainage. There are virtually no side effects, and NTZ maintains therapeutic action with repeated use. NTZ is available in a convenient, nonbreakable plastic squeeze bottle of 20 cc. that delivers a fine, even spray and does not leak. Even small children use it easily.

***N**eo-Synephrine® hydrochloride, 0.5%* — accepted vasoconstrictor and decongestant

***T**henfadil® hydrochloride, 0.1%* — dependable topical antihistaminic

***Z**ephiran® chloride, 1:5000* — antibacterial wetting agent and preservative

Winthrop LABORATORIES *New York 18, N.Y.*

NTZ, Neo-Synephrine (brand of phenylephrine), Thenfadil (brand of thenyldiamine) and Zephiran (brand of benzalkonium, as chloride, refined), trademarks reg. U.S. Pat. Off.

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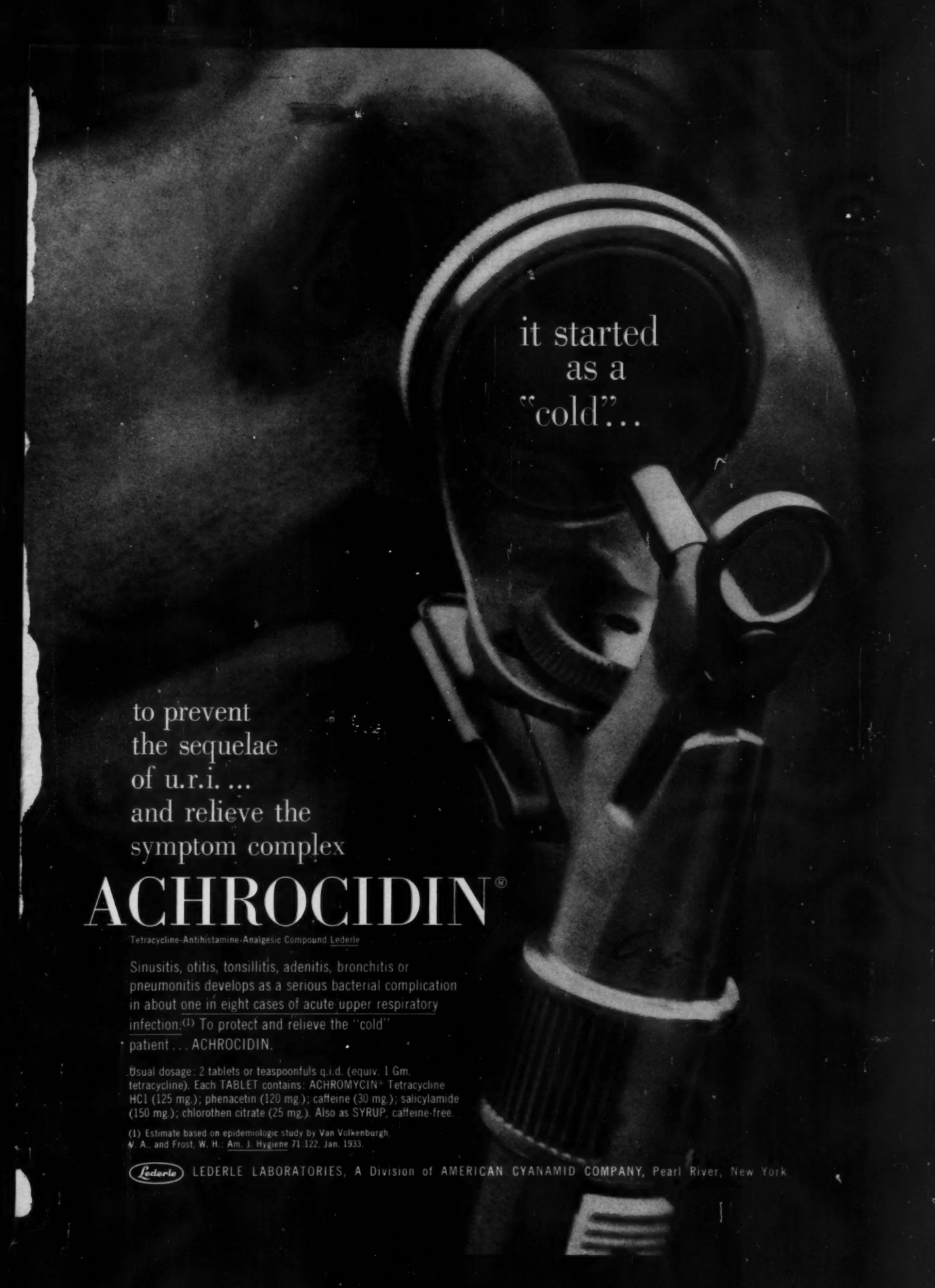


to prevent
the sequelae
of u.r.i. ...
and relieve the
symptom complex

ACHROCIDIN®

Tetracycline-Antihistamine-Analgesic Compound Lederle

Sinusitis, otitis, tonsillitis, adenitis, bronchitis or pneumonitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.[1] To protect and relieve the "cold" patient . . . ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN® Tetracycline HCl (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen citrate (25 mg.). Also as SYRUP, caffeine-free.

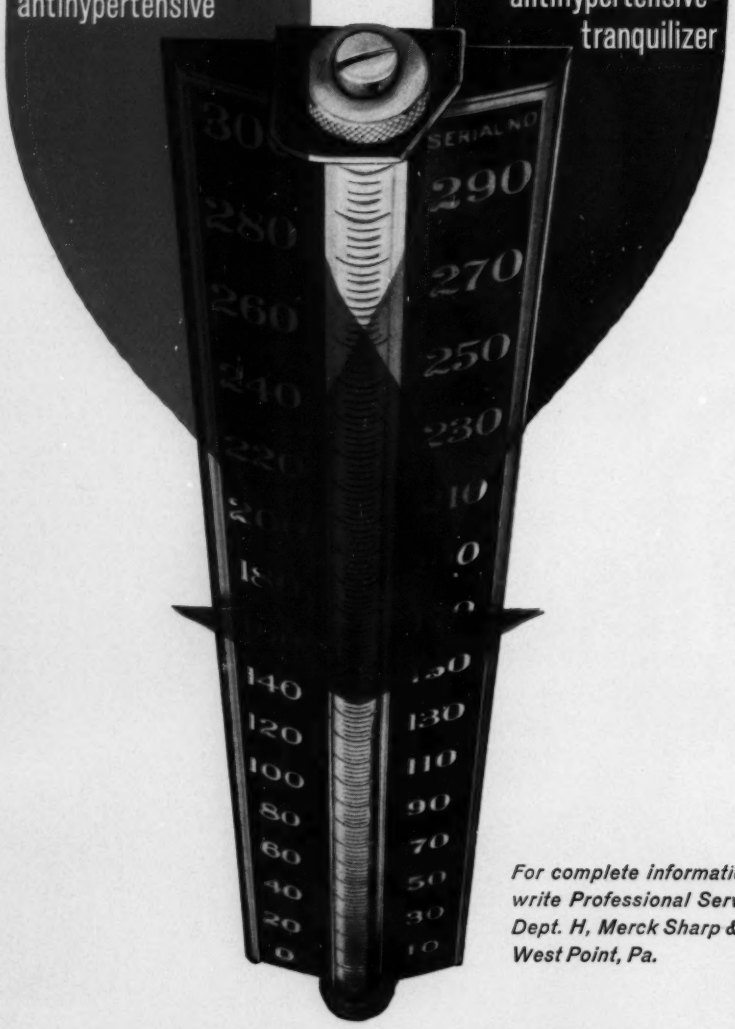
(1) Estimate based on epidemiologic study by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122, Jan. 1933.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

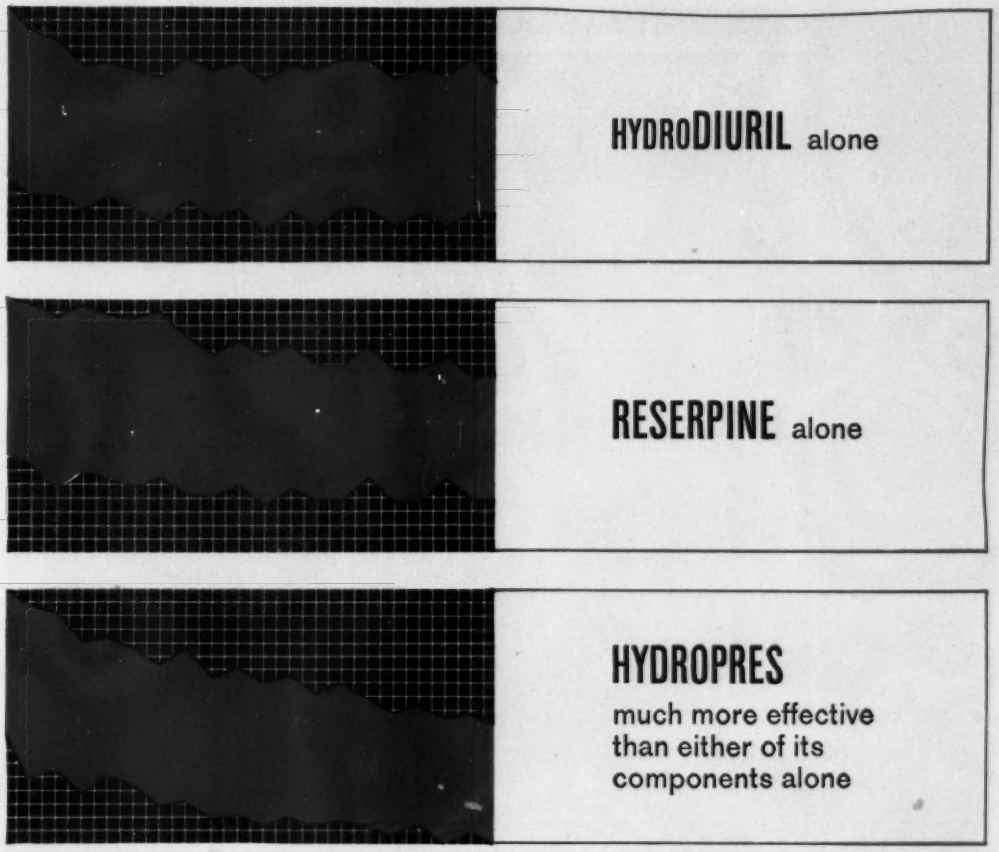
greater antihypertensive effect...fewer side effects

HYDROPRES*

HYDRODIURIL (HYDROCHLOROTHIAZIDE) antihypertensive WITH RESERPINE antihypertensive-tranquilizer



For complete information write Professional Services, Dept. H, Merck Sharp & Dohme, West Point, Pa.



- Effective by itself in a majority of patients. Provides smooth, more trouble-free management of hypertension.
- Since HYDRODIURIL and reserpine potentiate each other, the required dosage of each is lower when given together as HYDROPRES than when either is given alone.
- HYDROPRES provides the needed and valuable tranquilizing effect of reserpine. Lower dosage may reduce such side effects of reserpine as excessive sedation and depression.
- Arrest or reversal of organic changes of hypertension may occur.
- Headache, dizziness, palpitations and tachycardia are usually promptly relieved. Anginal pain may be reduced in incidence and severity.
- With HYDROPRES, dietary salt may be liberalized.
- Convenient, controlled dosage.

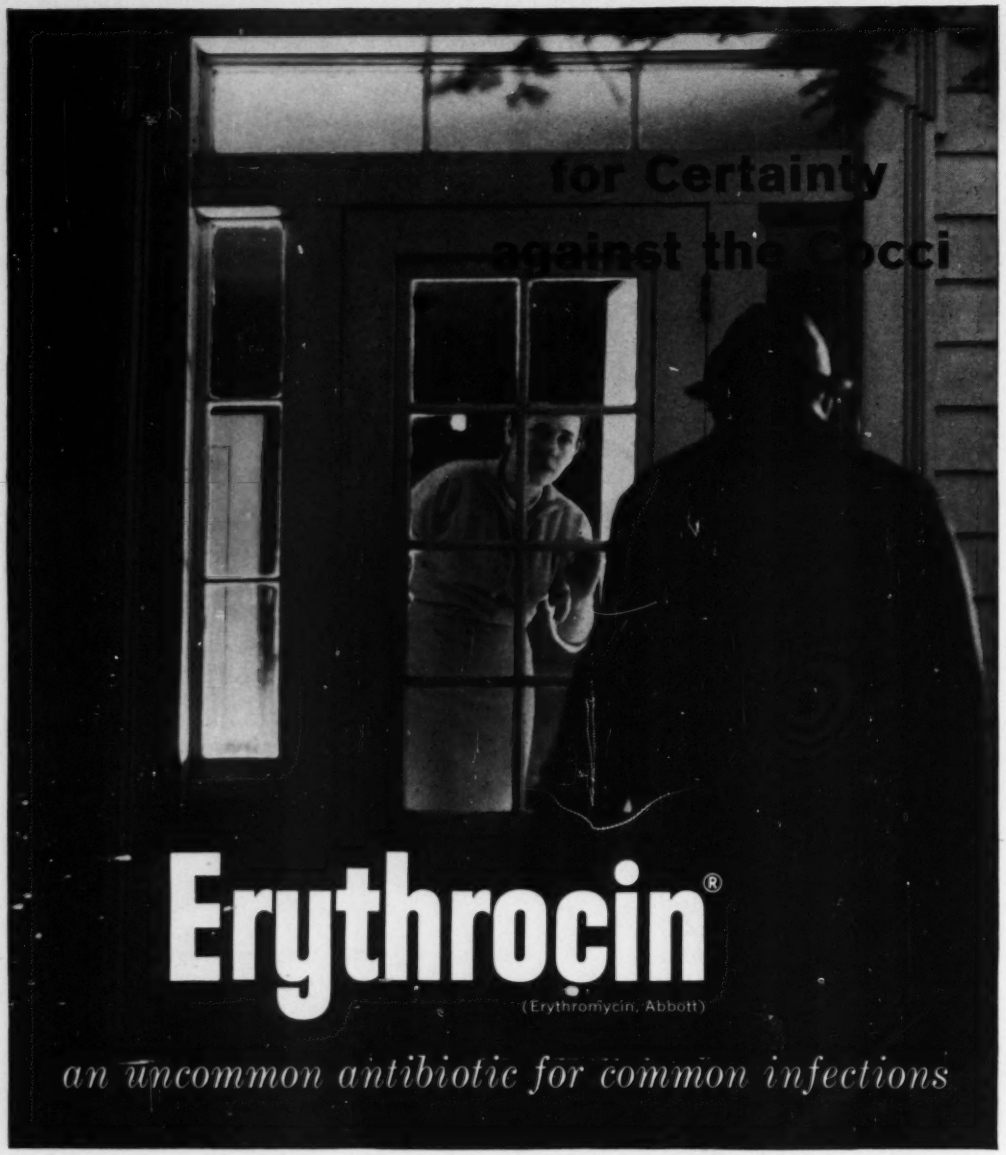
HYDROPRES-25
25 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one to four times a day.

HYDROPRES-50
50 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one or two times a day.

If the patient is receiving ganglion blocking drugs or hydralazine, their dosage must be cut in half when HYDROPRES is added.

MSD MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

*HYDRODIURIL AND HYDROPRES ARE TRADEMARKS OF MERCK & CO., INC.



Provides fast, high blood and tissue concentrations—plus an unparalleled safety record. Erythrocin is available in easy-to-swallow Filmtabs® (100 and 250 mg.); in tasty, citrus-flavored Oral Suspension (200 mg. per 5-cc. teaspoonful); and for intravenous and intramuscular use.

ABBOTT

®FILMTABS—FILM-SEALED TABLETS. ABBOTT, U.S. PAT. NO. 2,881,085

909132

running noses and open stuffed noses orally

Triaminic®

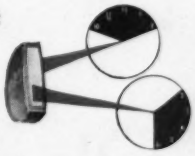
the leading oral nasal decongestant

- in nasal and paranasal congestion
- in sinusitis
- in postnasal drip
- in allergic reactions of the upper respiratory tract.

safer and more effective than topical medication[1,2,3]

- systemic transport to all respiratory membranes
- provides longer-lasting relief
- presents no problem of rebound congestion
- avoids "nose drop addiction"

Relief with Triaminic is prompt and prolonged because of this special timed-release action . . . beneficial effect starts in minutes, lasts for hours



first — the outer layer dissolves within minutes to produce 3 to 4 hours of relief

then — the core disintegrates to give 3 to 4 *more* hours of relief

Each TRIAMINIC Tablet provides:
Phenylpropanolamine HCl .....50 mg.
Pheniramine maleate .....25 mg.
Pyrilamine maleate .....25 mg.

One-half of this formula is in the outer layer, the other half is in the core.

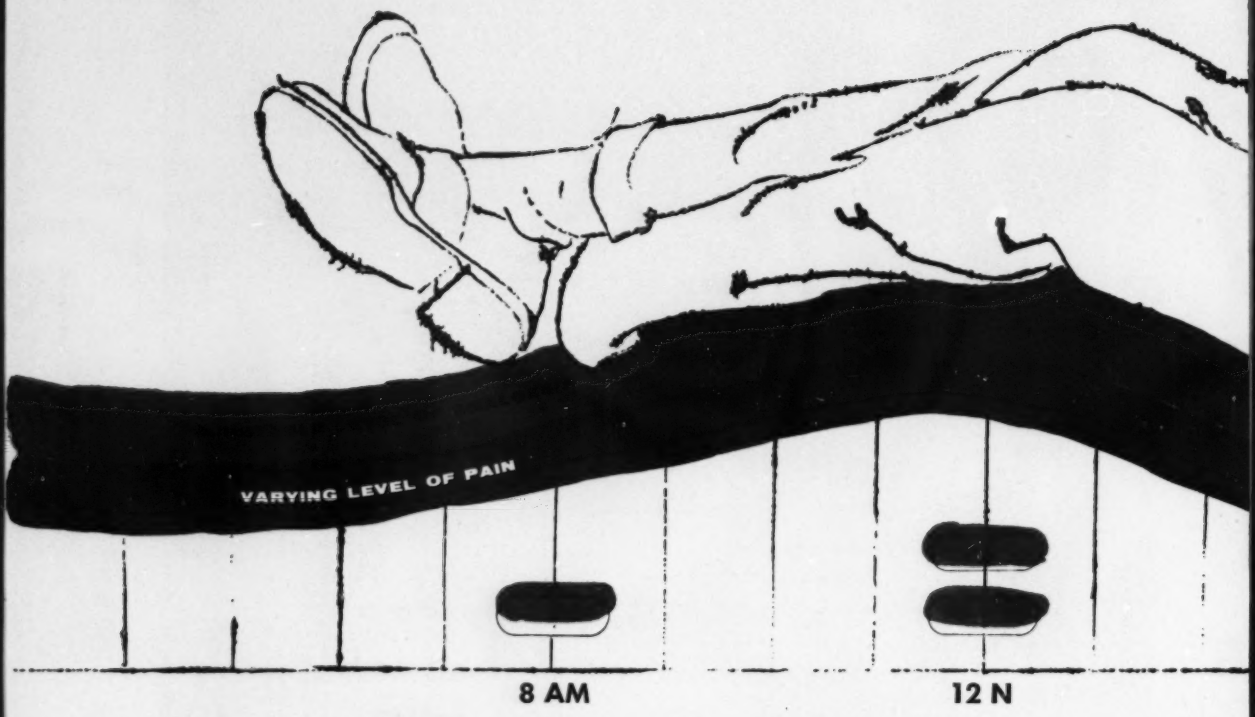
Dosage: One tablet in the morning, mid-afternoon and at bedtime.

References: 1. Lhotka, F. M.: Illinois M. J. 112: 259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

TRIAMINIC JUVELETS: Each timed-release Juvelet is equivalent in formula and dosage to one-half of a TRIAMINIC tablet, for the adult or child who requires only half strength dosage.

TRIAMINIC SYRUP is recommended for adults and children who prefer liquid medication. Each 5 ml. tsp. is equivalent to ¼ of a Triaminic Tablet. *Adults:* 2 tsp. 3-4 times a day; *children 6-12:* 1 tsp. 3-4 times a day; *children under 6:* in proportion.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska



keep all patients* pain-free at all times

- with the proper potency to match pain intensity
- with dosage flexibility to match pain variations

Phenaphen®

or

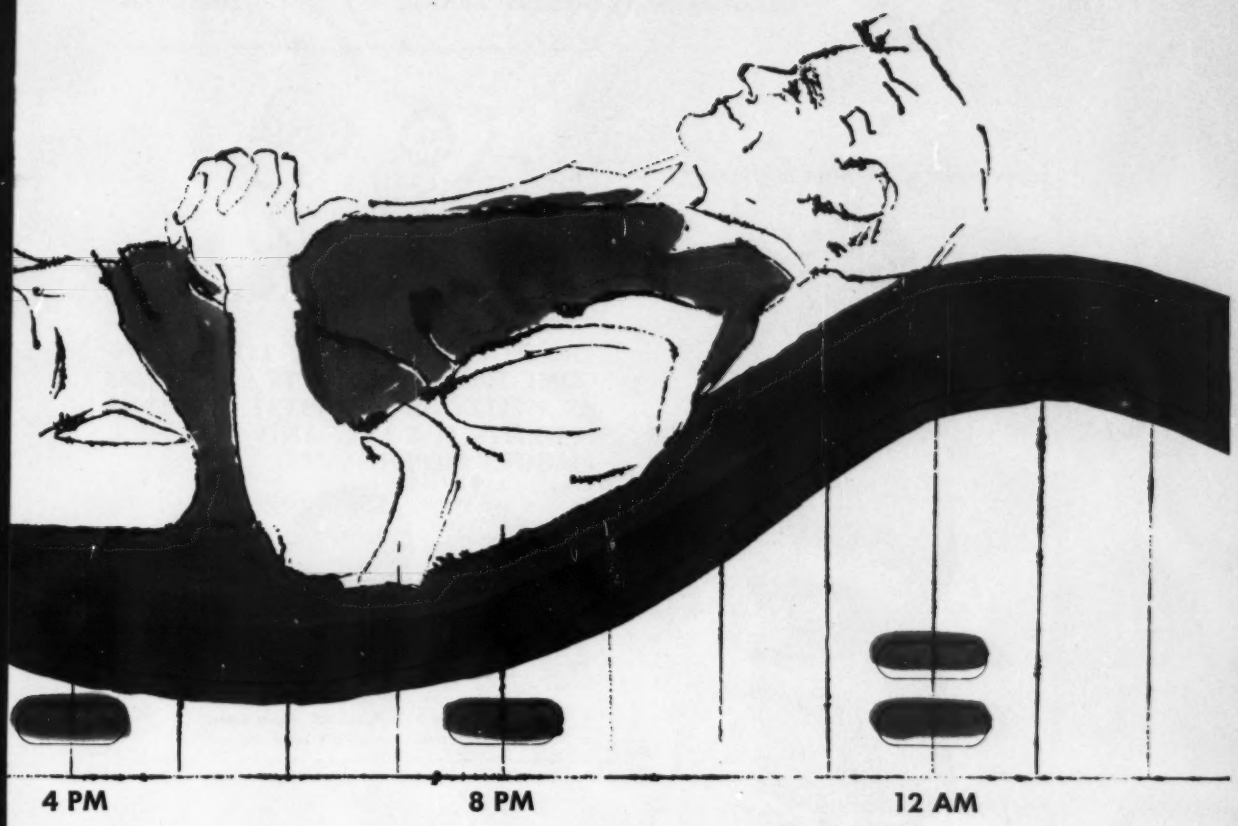
Phenaphen®-with Codeine

*except those for whom recourse to morphine is inescapable.

Robins

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Ethical Pharmaceuticals of Merit since 1878



Phenaphen and Phenaphen with Codeine provide
a wide range of analgesia, plus complete dosage flexibility,
to match varying pain requirements.

Yours to prescribe:

The **right** dose of the **right** potency at the **right** time.

Phenaphen

Basic non-narcotic formula

For mild to moderate pain

Each capsule contains:

Phenacetin (3 gr.)	194.0 mg.
Acetylsalicylic acid (2½ gr.)	162.0 mg.
Phenobarbital (¼ gr.)	16.2 mg.
Hyoscyamine sulfate	0.031 mg.

Phenaphen No. 2

Phenaphen with Codeine Phosphate ¼ gr. (16.2 mg.)

For moderate to severe pain

Phenaphen No. 3

Phenaphen with Codeine Phosphate ½ gr. (32.4 mg.)

For severe or stubborn pain

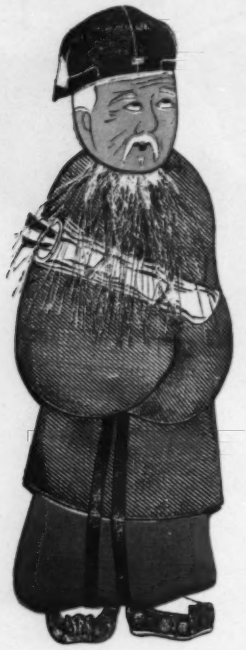
Phenaphen No. 4

Phenaphen with Codeine Phosphate 1 gr. (64.8 mg.)

For stubborn or intense pain—to obviate or postpone use of morphine or addicting synthetic narcotics

DOSAGE: One or two capsules as required.

immortals of chinese mythology:



Chang Kuo-lao

This itinerant sage impressed the court of the Emperor by growing a new set of teeth

...this potent corticosteroid has impressed the medical profession with its repeated success in countless steroid-responsive indications

METICORTEN

METICORTEN,® brand of prednisone, 5 mg. tablets.

SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY

You will soon receive in your mail a full-color, handmade, three-dimensional figure of this Chinese Immortal, mounted and suitable for framing.

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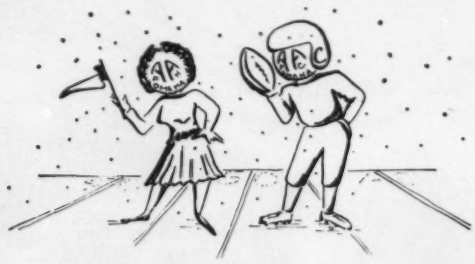
Schering



PROTECTION AGAINST LOSS OF INCOME FROM ACCIDENTS & SICKNESS AS WELL AS HOSPITAL EXPENSE BENEFITS FOR YOU AND ALL YOUR ELIGIBLE DEPENDENTS.

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL BENEFITS GO TO

PHYSICIANS CASUALTY & HEALTH ASSOCIATIONS
OMAHA 31, NEBRASKA
Since 1902
Handsome Professional Appointment Book sent to you FREE upon request.

provides therapeutic levels . . . for 24 hours . . .
with low incidence of sensitivity reactions . . .
WHENEVER SULFAS ARE INDICATED

KYNEX®

Sulfamethoxypyridazine Lederle
0.5 Gm. TABLETS/NEW ACETYL PEDIATRIC SUSPENSION
LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

QUESTIONS ON THE CLINICAL USE OF KANTREX

Q Why should I use KANTREX® Injection* when there are so many other antibiotics available?

A

Because KANTREX Injection is bactericidal to a wide variety of organisms, including many that are highly resistant to the other antibiotics[3,4,10,12,13,17,18,20,21,23,24,25,27,30,33,35,37]

—organisms such as *Staph. aureus, Staph. albus, A. aerogenes, E. coli, H. pertussis, K. pneumoniae, Neisseria* sp., *Shigella, Salmonella* and many strains of *B. proteus.*

Q *But if I use* KANTREX *Injection, won't that help make bacteria resistant to it also?*

Next page, please .....

*Kanamycin sulfate injection (Bristol)

Q *But if I use* KANTREX *Injection, won't that help make bacteria resistant to it also?*

A A very good question, but it is reassuring to note that in almost two years of clinical use of KANTREX for the treatment of infections for which it is recommended, the emergence of KANTREX-resistant bacterial populations has not been a problem.

Q *My impression is that* KANTREX *is just another neomycin. Isn't that so?*

A Indeed not. The only thing KANTREX and neomycin have in common is a similar antimicrobial spectrum. Otherwise, they're very different: they have different chemical structures; the toxicity of KANTREX is "much less than that of neomycin"[14]; and clinically, KANTREX Injection is practical for systemic administration routinely, while neomycin is not.

Q *You mean that* KANTREX *Injection doesn't have the nephrotoxicity of neomycin?*

A Precisely. It's true that when KANTREX Injection is used, urinary casts – even slight albuminuria or microscopic hematuria – may appear, especially in poorly hydrated patients, but this does not reflect any progressive damage to the kidneys. These signs promptly disappear on adequate hydration or termination of therapy.

Q *Then why do you recommend reduced dosage in patients with renal impairment?*

A Because renal impairment causes an excessive accumulation of KANTREX in the blood and tissues, when usual doses are administered. Since KANTREX Injection is excreted entirely by the kidneys, renal impairment leads

to unnecessarily high and prolonged blood levels; and such excessive concentrations increase the risk of ototoxicity.

Q *Is that why we see reports of patients developing hearing loss during* KANTREX *Injection therapy?*

A Yes. A study of the few reported cases in which patients have suffered impaired hearing will show that in every instance they had pre-existing or concurrent renal impairment, yet received usual or excessive doses of KANTREX Injection. Dosage recommendations for KANTREX Injection emphasize that in patients with renal dysfunction, adequate serum levels can be achieved with a fraction of the dose suggested for patients with normal kidney function – with minimal risk of ototoxicity.

Q *Since urinary tract infections are often accompanied by renal impairment, does that mean I shouldn't use* KANTREX *Injection in such conditions?*

A Not at all. With proper precautions, KANTREX Injection is an excellent drug for the treatment of urinary tract infections, especially those due to *Proteus*, *A. aerogenes* and *E. coli*, even when renal impairment is present.

Q *What are the "proper precautions" in a patient with impaired renal function?*

A The package literature covers them in detail. First, the daily dose should be reduced in such a patient. Then, if he is going to receive KANTREX Injection for 7 days or more, a pre-treatment audiogram should be done, and it should be repeated at appropriate intervals during therapy. If tinnitus or subjective hearing loss develops, or if followup audiograms show significant loss of high frequency response, KANTREX therapy should be discontinued. However, therapy for 7 days or more

is seldom required because the clinical response to KANTREX Injection is so rapid.

Q *Why do you put so much emphasis on* KANTREX'S *"rapid action"? Every antibiotic I've heard about is supposed to be "rapid acting."*

A There is such an abundance of clinical evidence about "rapid acting" that it takes KANTREX Injection out of the "supposed-to" class.[1,2,3,7,8,9,11,15,16,19,21,22,26,29,32,33] Remember, the effectiveness of KANTREX Injection therapy can usually be appraised in 24 to 36 hours. That's definite evidence of rapid action. In fact, one group of investigators reported that "the rapidity with which bacteria are killed by this agent is reflected by the promptness of the clinical response."[29]

Q *Does* KANTREX *Injection cause blood dyscrasias?*

A In extensive clinical and toxicity studies by numerous investigators, as well as almost two years of general use, not a single instance of such toxicity has been reported.

Q *Can I administer* KANTREX *Injection in any other way than by the intramuscular route?*

A Yes. While it's usually given intramuscularly, other routes are practicable: intravenous, intraperitoneal, by aerosol, and as an irrigating solution. Complete instructions are included in the package insert.

Q *So you think I ought to use* KANTREX *Injection as my first choice antibiotic in staph and gram-negative infections?*

A Yes – because all evidence to date indicates that it is bactericidal against a wide range of organisms... rapid acting... does not encourage development of bacterial resistance... is well tolerated in specified dosage... and has not caused any blood dyscrasias.

KANTREX® CAPSULES

for local gastrointestinal therapy...
not for systemic infections

Q *Why can't I use* KANTREX *Capsules for systemic medication?*

A Because there is only negligible absorption of KANTREX from the gastrointestinal tract.[3,5,6,8,28,34] Thus, capsules cannot provide effective blood levels.

Q *Then what are* KANTREX *Capsules used for?*

A Preoperative bowel sterilization, and local treatment of intestinal infections due to kanamycin-sensitive organisms.

Q *I've been using neomycin for preoperative bowel sterilization. Why should I switch to* KANTREX *Capsules?*

A Because KANTREX has been rated as "superior to neomycin" for this purpose.[6] It provides rapid and satisfactory control of coliforms, clostridia, staphylococci and streptococci; yeasts do not proliferate; stool concentrations of the drug are exceptionally high; and nausea, vomiting or intestinal irritation have not been observed.[5,6]

Q *What advantages do* KANTREX *Capsules offer me in the treatment of intestinal infections?*

A A high degree of effectiveness against most of the pathogens responsible for such infections: *Salmonella, Shigella, Staph. aureus, E. coli* and *Endamoeba histolytica.* Moreover, their use has been "remarkably free of any side effects."[31]

KANTREX®

INJECTION KANAMYCIN SULFATE INJECTION

INDICATIONS

Infections due to kanamycin-sensitive organisms, particularly staph or "gram-negatives": genito-urinary infections; skin, soft tissue and post-surgical infections; respiratory tract infections; septicemia and bacteremia; osteomyelitis and periostitis.

DOSAGE: INTRAMUSCULAR ROUTE

Recommended daily dose is 15 mg. per kg. of body weight, in 2 to 4 divided doses.

For intramuscular administration, KANTREX Injection should be injected deeply into the upper outer quadrant of the gluteal muscle.

TOXICITY

When the recommended precautions are followed, the incidence of toxic reactions to KANTREX is low. In well hydrated patients under 45 years of age with normal kidney function, receiving a total dose of 20 Gm. or less of KANTREX, the risk of ototoxic reactions is negligible.

In patients with renal disease and impaired renal function, the daily dose of KANTREX should be reduced in proportion to the degree of impairment to avoid accumulation of the drug in serum and tissues, thus minimizing the possibility of ototoxicity. In such patients, if therapy is expected to last 7 days or more, audiograms should be obtained prior to and during treatment. KANTREX therapy should be stopped if tinnitus or subjective hearing loss develops, or if audiograms show significant loss of high frequency response.

OTHER ROUTES OF ADMINISTRATION

KANTREX should be used by intravenous infusion only when the intramuscular route is impracticable. KANTREX can also be employed for intraperitoneal use, aerosol treatment, and as an irrigating solution. See package insert for directions.

PRECAUTIONS

Use of antibiotics may occasionally result in overgrowth of non-sensitive organisms. If superinfection appears during therapy, appropriate measures should be taken.

SUPPLY

Available in rubber-capped vials as a ready-to-use sterile aqueous solution in two concentrations (stable at room temperature indefinitely):

KANTREX Injection, 0.5 Gm. kanamycin (as sulfate) in 2 ml. volume.
KANTREX Injection, 1.0 Gm. kanamycin (as sulfate) in 3 ml. volume.

CAPSULES (for local gastrointestinal therapy; not for systemic medication)

INDICATIONS AND DOSAGE

For preoperative bowel sterilization: 1.0 Gm. (2 capsules) every hour for 4 hours, followed by 1.0 Gm. (2 capsules) every 6 hours for 36 to 72 hours.

For intestinal infections: Adults: 3.0 to 4.0 Gm. (6 to 8 capsules) per day in divided doses for 5 to 7 days. Infants and children: 50 mg. per kg. per day in 4 to 6 divided doses for 5 to 7 days.

PRECAUTION

Preoperative use of KANTREX Capsules is contraindicated in the presence of intestinal obstruction. Although only negligible amounts of KANTREX are absorbed through intact intestinal mucosa, the possibility of increased absorption from ulcerated or denuded areas should be considered.

SUPPLY

KANTREX Capsules, 0.5 Gm. kanamycin (as sulfate), bottles of 20 and 100.

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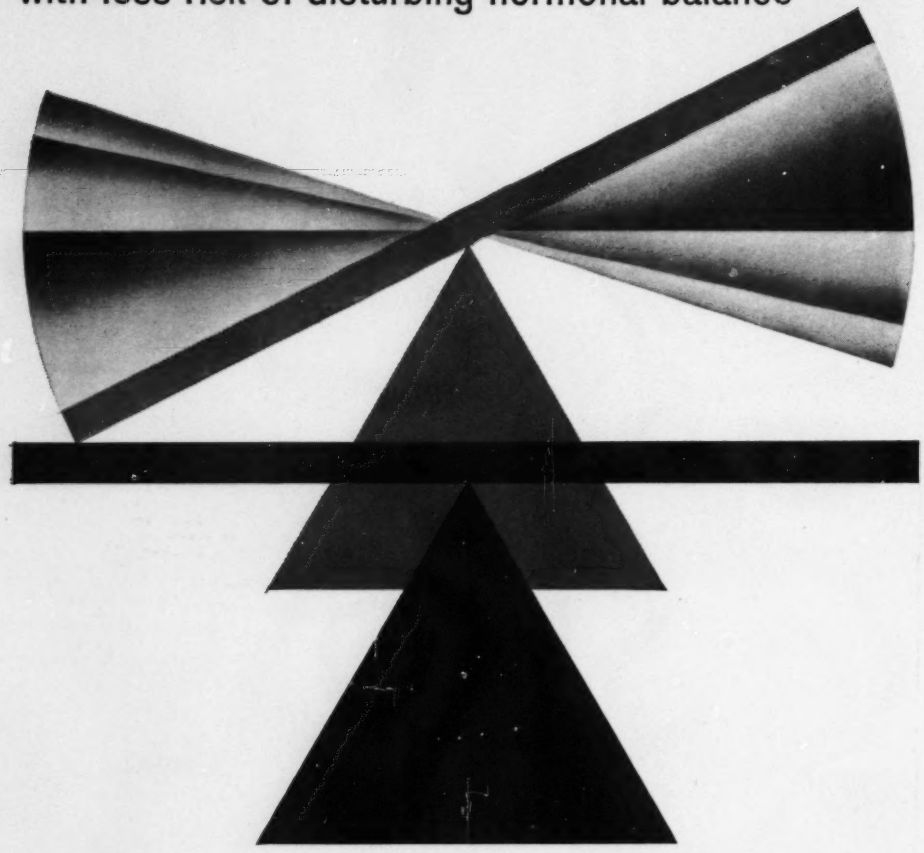

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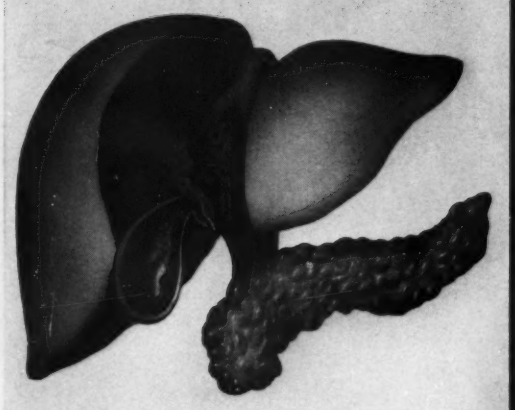

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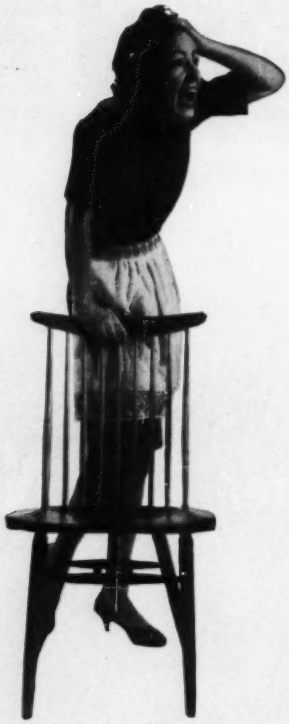

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